THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXX.—No. 4342. APRIL 23, 1926.

OLD AND NEW IN ECONOMICS

ON another page we have reviewed a little book which is certain to arouse a considerable amount of interest. It is one of many books which have been written while this country has been suffering from an industrial depression hitherto unparalleled. There are times when we feel the hopelessness of the long period of waiting; at other times the veil is lifted for a moment as we read each minute contribution in the hope that it may help to diagnose the disease which has attacked our industrial life. From a parochial standpoint the building industry remains immune from a disease which has caused one-and-a-quarter millions of our people to remain workless. Enormous issues are involved, we admit, but there are also fundamental principles which are being broken, and they are as serious as the principles which govern the laws of health. The penalty must be paid, and no individual industry can long survive the partial paralysis of the industrial body. Further, to continue the analogy, it seems to be evident that artificial conditions alone have maintained the building industry, despite the fact that it has contracted the disease.

Presumably, we are to regard "The Secret of High Wages" as a euphemistic term for the secret of prosperity. On our part we do not consider the secret of high wages to be a recent discovery. It is as old as civilisation, and is merely the modern development of the curse laid upon Adam. What we think we have been trying to discover is the secret of how to obtain high wages without earning them. Hence our costly experiment of the last few years, and our failure. If, however, we assume we have discovered the secret of high wages, we have automatically discovered the secret of low wages. And further, there is nothing very serious about low wages provided our wants are few and we are content with little. Unfortunately, it happens that we are experimenting with our economic adjustments at a time when we believe—and we are encouraged in the belief—that our wants are very great. The flaws at the moment are that, if we know the secret of high wages, we neither know how to assess them in terms of living, nor has anyone discovered a method of imparting this fundamental truth to the operatives. The real difficulty is to set the wheel in motion.

It is important to realise that while it is possible to give a number of reasons for America's prosperity, it does not follow that these reasons will explain the cause of England's depression. Economic philosophy based upon the deductive method begins with first principles, and then applies them to the facts of to-day, or to some of the facts. The other method is inductive. It begins with the facts and works up to principles. It is on this latter method that the authors have attempted to find a number of causes which might reasonably be held to account for the fact of America's prosperity. We do not think these have been established, nor do we think that certain conditions prevailing in this country have been recognised.

These observations are not meant to detract from the essential truth which the authors discuss in their examination of the industrial conditions in America. The real kernel we extract from the book—and the fact cannot be reiterated too often—is that high wages are in relation to production. If this fact were an axiom to every worker, we would have gone a long way towards reviving our industrial health. The example of the Ford Motor Company is quoted, where an exceedingly high wage rate is paid, but a very cheap product is the result. There is no great mystery in this, but it is much more unpalatable medicine than the popular doctrine of "ca' canny." In plain language, one is a policy based upon work; the other is a policy based upon indolence and an aptitude for political argument.

The "secret" discovered by the authors is that, given efficiency in production, high wages can be paid. We would go even further, and say that under this condition high wages are unavoidable. It is when the authors go on to suggest that the remedy for the present bad trade in this country is to pay higher wages that we entirely disagree with them. Industry is to be given a homœopathic dose of the disease it is suffering from. To our thinking, the error lies in mistaking the causation of events in the relations between high wages and efficiency in production. To put it otherwise, the question is whether high wages come first or efficiency in production. The point is vital, since two radically divergent creeds and methods of economic thought are represented. It can be asserted quite definitely that efficiency in production need not follow on high wages, but the converse, we believe, is the logical philosophy. The connotation that high wages mean prosperity is a natural and popular philosophy, but it is merely an abstraction unless the implications are understood. Wrongly interpreted, it can be a very dangerous doctrine. High wages represented in terms of efficiency of production would postulate a prosperous country, but high wages as a first cause will result inevitably in an industrial depression—the actual depression we are suffering from to-day.

An appeal to the facts as we see them in this country does not confirm the easy confidence in the efficacy of high wages. We know that relatively high wages are being paid, while production has actually decreased. On the other hand, there are mills which are nearly idle in which labour efficiency and machinery are at least equal to that of America, if not better. A further increase of wages would seem to us to be the direct method to bring about total stagnation. We would say that it is just as easy to maintain that wages are already too high, or that none of us has any conception of what high wages really mean. They may mean anything without regard to the cost of living; they certainly mean nothing without regard to the amount and cost of the output. No one seems willing to submit to practical tests which would mean increasing the efficiency of labour or reducing wages. We agree that it is certainly a very much simpler experiment to increase wages, and we would suggest that it should be done very handsomely, so that the results could be determined and the theory once for all laid to rest.

America has no parallel to our Government dole—a dominating factor in our present industrial troubles. We see no way out of the difficulty, or at least we think that anyone who attempts to solve the problem of trade depression should concentrate upon a remedy which attacks the problem of the dole. As a growth, it feeds upon itself; it creates unemployment, while it attempts to relieve it. As an economic system, it represents a strange contrast to the "secret" of high wages, but are we altogether certain that it is not the penalty of TOO HIGH WAGES?

NOTES

Our Leader. We offer no apology for our excursion this week into the realms of the "dismal science." We may be wrong in our deductions, and in this respect we would add—as an excuse for what we have written, and, incidentally, for most of the books we have read on the subject—that, having grasped a single economic principle, it is given to few the ability to interpret it to us simply and clearly. On no other subject do we find the limitations of our language so apparent. Half-truths appear as truths; causes appear as effects, and economic theories are as easy to rear as weeds. Nothing but scrupulous care in writing and elaborate reasoning in argument can save us from economic philosophies which can be interpreted in a number of different ways. Hence the difficulties arising from limitations of space, and boredom arising from elaboration of philosophical deductions.

Wages. Apropos of the conditions in America, we quote the following from a weekly paper:—"Employers and employed alike have grasped a single principle which is in danger of being overlooked in Great Britain—that it is more profitable to sell a large output at a comparatively low price, than a small output at a high price." With this we are entirely in agreement, but we confess we are totally unable to see that the method of bringing about this enlightened policy is by means of a further increase in wages. Our point of view is that we are at present suffering from a small output at a high price. There is a limited market for our goods at the price—hence our industrial depression and unemployment. Either the wage basis or the output is wrong. With a higher wage we think we can safely prophesy a still smaller output at a still higher price. The wage question is inextricably confused with questions of output and costs of living. No one knows what a living wage is, or has ever defined it. No one interested in the science of political economy knows how it is to be obtained without work. The doctrine of high wages can only be held within limits, and any theory of this kind must necessarily be controlled by the price at which articles can be sold. If there were a steady demand for our goods in the market place there would be no need for the dole to-day. To deny this is to force us to accept the fantastic idea that the dole was adopted as a temporary expedient until wages and prices could be increased.

Craftsmanship. On the occasion of the R.I.B.A. meeting on Monday, when the subject under discussion was "The Co-operation of Architect and Craftsman," Mr. Gilbert Bayes and Mr. Laurence Turner, both men of long practice in the crafts, read interesting papers. Mr. Bayes laid stress on the presence of decadent symptoms in the arts and the pursuit of ugliness, perhaps giving too much importance to what is no doubt a feature of the time, but not representative of its leading directions. In fact, the practical information we were looking for was rather subsidiary to these general declarations. In this sense, Mr. Laurence Turner came to closer grips with the subject in describing the difficulties which often faced craftsmen when working for architects. In such a discussion with experienced craftsmen to instruct us, we are thinking of craftsmanship in its higher forms of expression, and the architect, from the nature of his work being more largely concerned with bricklayers and masons, is perhaps sometimes inclined to regard his relation to the latter as the point of view from which to approach the former, which has led no doubt at times to division between them. But a better and more mutual spirit is abroad, and we do not need to dwell too much on our points of division, and the only defects in the papers read was that they lacked the inspiration of the new spirit we believe to exist, and were rather negative in character.

Architect *versus* Craftsman. We need to-day to forget as much as possible our divisions and seek those directions on which we can unite. There has been an excess of talk on craft and "craft ideals" over the last years, and the artist knows that it is the least part of art that can be talked of in this way. Art is born in the heart of the artist and, given this, he will find the means, though what he knows is mostly known for himself. And there was something in the ancient view which regarded art as a "mystery." What we need from the artist is to have authentic witness of what he loves and suffers and can project in beautiful form. The human grounds of union are what bring men together—disinterestedness, mutual respect and a humble spirit—whether architects or craftsmen, and Mr. Laurence Turner in emphasising the point of the necessity of contact on equal terms, of getting to know each other, contributed what is most vital to the whole matter. Mr. Gilbert Bayes justly referred to the want of recognition of the craftsman who did not always get full credit for his work which was assumed by others, but given the freedom and opportunity to do his work well it does not perhaps very much matter, as there is danger as well as advantage in too much publicity. He who seeks the latter is hardly the best artist.

Architect and Craftsman. It cannot too clearly be pointed out that the work of the craftsman is not to register the paper designing of the architect, but to interpret it under the conditions of the material in which he works and his ability as an artist to adapt what is supplied to him. There can be no proper co-operation except as there exists this mutual recognition of what each has to bestow. Any variations in the point of view will then, through mutual and friendly discussion, find a solution. The artist in the craftsman (for they are not necessarily the same thing) will greet the artist in the architect, and this is the golden bridge between them. Unless both have the approach of artists in some measure, there cannot be this necessary correspondence or mutual understanding between them which will secure that fine results are reached in working together. The strength of each is needed for the result.

The Lincoln Memorial, Washington. The late Henry Bacon, Architect.

From the Exhibition at the Leicester Galleries.

Sketch for a Cavalry Memorial.

By the late F. Derwent Wood, R.A.

The R.I.B.A. Prizes. The list of prizes and Studentships offered through the medium of the Institute for the season 1926–1927 has now been issued. It contains full information as to awards which are to be made of the value of nearly two thousand pounds. It is surely an attractive and varied list, for it may well afford an incentive to definite effort and help those who in their student days may be glad of financial help. This will be a Tite prize year, and no Soane competition. Some of the subjects for competition should prove interesting, and it is to be hoped that we shall see a better response than we have had lately.

Picture Exhibitions. It has been suggested that entrance to picture exhibitions should be free, and there is some reason in the idea, for it is very difficult to get visitors to picture exhibitions even when they are free. It occurs to one in visiting an exhibition like the R.I. in Piccadilly, that a great number of people would be interested in and perhaps receive from it some pleasant stimulus if they believed that it was worth while. Except in the case of the Royal Academy, we may presume, perhaps, that the payments for admission are of comparatively small value, and that the sale of pictures is a more important matter. Artists are probably more inclined to ask a moderate price for their work to-day, and we are assured that even good work sells for much less in Paris than in London. We happened to note the price of a water-colour at the R.I. recently as being remarkably moderate, and we can just imagine a visitor who would be tempted to "an exhibition which is free" finding it in his heart to buy it. We are all of us at times more economical in small things than in greater. However, we incline to the belief that we do not make the most of our pictures, and a more generous outlook on the part of our many picture-gallery owners would, we think, do them more good than harm, and add something definite to the pleasures of the general public.

A Misleading Title. A correspondent draws attention to the name plate on a house at the corner of Friday-street, Cheapside, which states that it is the oldest house in Cheapside, and that it survived the Great Fire. As no brick houses appear to have survived the fire and the plate appears to be inaccurate, should not the Guildhall authorities see to this? Mr. H. A. Cox, in his "Old London," says not a single house was left standing in Cheapside after the Great Fire.

The Derwent Wood Exhibition. The two rooms devoted to the work of the late F. Derwent Wood, R.A., at the Leicester Galleries will do something to show what a gifted artist he was, not merely as a sculptor, but in other ways. He believed in the wider outlook of art, and his sympathies were broad enough to enable him to work successfully in varied directions. He had a genuine architectural instinct and was one of the best designers we have had of the pedestals and accessories to sculptural design. Some of his water colours are quite delightful in their simple directness of treatment and excellence of colour, whilst he produced fine, vigorous pen drawings. His valuable war service we have before referred to. We can imagine few artists whose record of work would make a more interesting monograph. He certainly reached to the very front rank of modern artists.

Cornish Churches. The Cornish Church Guide is an interesting little volume which those who know the Cornish churches will much appreciate. If it had been possible to illustrate the whole of the churches, it would have given a fine realisation of the sturdy and interesting work which gives to the Cornish work such a character of its own. The churches which nestle in little hollows by the sea form the centres of delightful pictures, and the interiors seem to some people to reflect almost more than any others the fine traditions of ancient ecclesiastical art. Though the granite of Cornwall is so fine a material and so ready to hand, it does not seem to have been greatly used till about the fifteenth century, but the granite arcades in the old Cornish churches have a character and interest peculiar to themselves, and where they occur in conjunction with the finely carved roofs and benches for which Cornwall is noted we get interior effects which are hardly to be surpassed amongst the simpler parish churches in the country.

The Building Trades Exhibition. For want of space, and owing to the fact that the Exhibition was opened as we were going to press, we were unable to notice all the interesting features last week, but we give elsewhere some further account of the Exhibition which, we are glad to state, is proving to be a great success, and is being visited by a very large number of architects and builders. For our part we do not think a better Building Trades Exhibition has ever been held before, and this, we believe, is the general opinion. Not only have the organisers arranged everything with characteristic thoroughness, but the stall holders have risen to the occasion, and in most cases have provided better stands and exhibits than ever before.

From the Exhibition of Garden Designs at the R.I.B.A.

Chart Gate House, Westcott, Surrey. Mr. Oliver Hill, Architect.

GENERAL NEWS

New R.A.'s.

Mr. Malcolm Osborne, A.R.A., has been elected a Royal Academician Engraver, and Mr. George Harcourt, A.R.A., painter, a Royal Academician.

An Appointment.

Mr. R. S. Wilshere, Chief Assistant Architect of the Essex County Council, has been appointed architect to the Education Authority of Belfast.

Institute of British Decorators.

Mr. Joseph Thomas M'Arthur, of the firm of M'Arthur Bros., West Maitland-street, Edinburgh, has been elected President of the Incorporated Institute of British Decorators. Mr. M'Arthur was formerly president of the Federation of Master Painters in Scotland, and for four years president of the local Association of Master Painters.

New Company.

The Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board, a new company with headquarters at 90, Buckingham Palace-road, S.W.1, was registered on March 20. The directors have not yet been appointed. The nine subscribers include the following:—Messrs. H. D. Searles-Wood, F.R.I.B.A., H. Tanner, F.R.I.B.A., F.S.I., and A. Bostock Hill, M.D., M.Sc., D.P.H.

Bank of England Vault.

Permission has been given to the Bank of England by the City Corporation to construct a vault beneath the footway along the full length of the frontage of the bank abutting upon Lothbury.

New City Dwellings.

To accommodate about 608 persons to be displaced from houses in the City unfit for habitation the Corporation are erecting dwellings in Shepherdess-walk, Turner's-place, and Wenlock-road, off the City-road, at a cost, including the site, of £113,000.

Architect's Estate.

Mr. G. T. Ewing, Pitkellony, Muthill, factor and commissioner to the Earl of Ancaster, formerly practising as an architect at Cancraig, left an estate of £30,843.

Mr. John Sowden, of Blenheim-road, Bradford, a regular exhibitor at the Royal Academy since 1863, the donor to the Bradford Art Gallery of a collection of portraits, for 40 years art master of the Bradford Mechanics' Institute, and formerly an architect, who died on January 16, aged 87, left estate of the gross value of £48,255.

Berks, Bucks and Oxon Architectural Association.

The sixth annual general meeting of this Association was held in the Election Hall, Eton College, on Saturday, April 17, by kind invitation of the Provost, when the following were elected officers for the ensuing year:—President, Mr. Harold S. Rogers, M.A., F.S.A., F.R.I.B.A. Vice-Presidents, Messrs. E. J. Dixon, A.R.I.B.A. (Bucks), G. T. F. Gardner, L.R.I.B.A. (Oxon), J. G. T. West, F.R.I.B.A. (Berks); Hon. Auditor, Mr. R. A. Rix, A.R.I.B.A.; Hon. Treasurer, Mr. T. T. Cumming, F.R.I.B.A.; Hon. Secretary, Mr. R. F. Dodd, A.R.I.B.A.

Mr. Harold S. Rogers delivered his Presidential Address and amongst the business discussed was that of an Exhibition of Members' Work, Architectural Lectures, and Competitions for Student Members. There was a good attendance of members, who were afterwards conducted over the Provost's Lodge and other parts of the College and assembled in Windsor for tea before dispersing.

Town-Planning Statistics.

It is stated that over 2,000,000 acres in this country are now included in schemes for town planning. Altogether 139 local authorities, with a population of over 20,000, and 181 local authorities with less than 20,000, have decided to prepare town-planning schemes; 181 councils have decided voluntarily to undertake town planning, and it is expected that this fact will encourage the Minister of Health to consider whether, in future legislation, the number of inhabitants in districts that are compelled to town-plan should be reduced below the present figure of 20,000. So far only twelve authorities in all have had their schemes approved, covering an acreage of 27,992.

St. Paul's Hospital.

Comparatively unknown to the public, St. Paul's Hospital, Red Lion-square, was founded in 1897. Since that date, the great increase in the number of patients—72,076 in 1925—made it necessary to obtain more accommodation; and in 1919, with this end in view, the freehold site of the British Lying-in Hospital, Endell-street, was purchased. The planning and designing of the reconstruction of the building was the work of Mr. A. W. Johnston, F.S.A.; and Mr. John Saxon Snell, F.R.I.B.A., consulting architect. After work had been started it came to a standstill for some time, owing to lack of funds, but it was later carried on under the direction of Mr. John B. Mendham, A.R.I.B.A., to the plans of the former architects. The site and re-building cost over £50,000, of which amount nearly £30,000 has been paid off, leaving a balance of approximately £20,000 still to be collected. In aid of this fund, a fancy dress ball will be held at the Savoy Hotel Grand Ball Room on Friday, April 23rd, when it is hoped a large company will assemble to help this deserving cause. The tickets (30s.), which also include a pageant of British fashion from tenth to twentieth century, demonstrating the evolution of feminine dress, table d'hote supper (separate tables), refreshments, and other attractions, may be purchased from Mrs. Lendrum, Welbeck House, W.1; Mr. W. S. Cutler, 74, Cornhill, E.C. 3; the Secretary, St. Paul's Hospital; Savoy Hotel; and Theatre Ticket agents.

Revival of Rome.

Signor Mussolini has caused plans to be prepared for the beautification of Rome. The first work to be undertaken is the isolation of the Capitol, the Theatre of Marcellus, and the Augusteum. A new road to the Colosseum will also be built, as well as a new National Gallery of modern art and several new thoroughfares, permitting more rapid transit than is possible through the narrow, winding streets of Old Rome. The money will be supplied by a special grant given by the Government.

Summer House, Great Rissington Manor, Glos. Messrs. Falconer, Baker & Campbell, Architects.

COMPETITION NEWS

Elementary School, Gosport.

Gosport Education Committee are to invite competitive plans from architects for a proposed elementary school on the Brockhurst site.

Wesleyan Church, Chingford.

The designs submitted in this limited competition by Messrs. George Baines & Son, FF.R.I.B.A., have been placed first and accepted. The estimated cost is about £7,000.

Proposed Pavilion, Eastern Esplanade Gardens, Ryde.

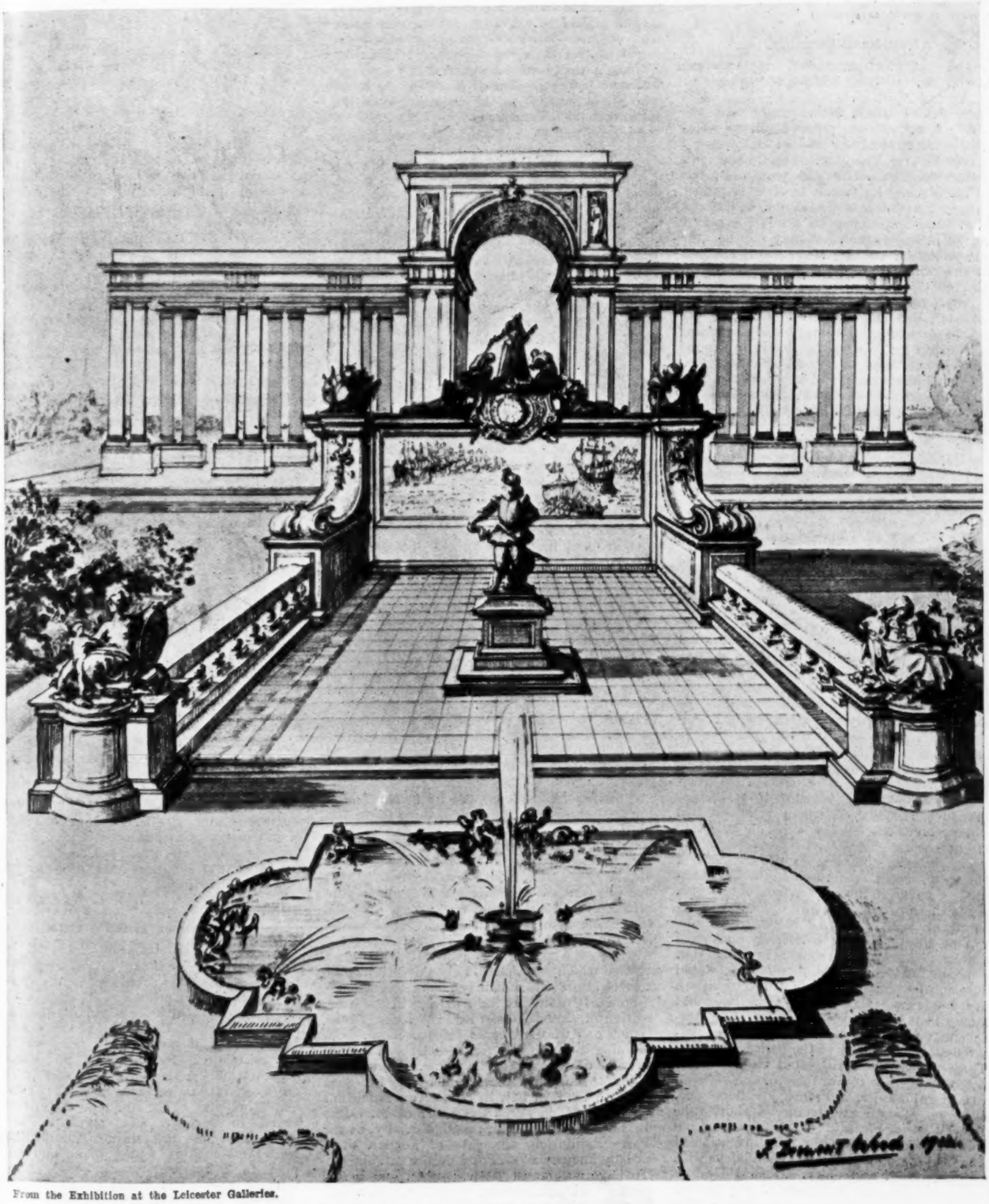
Ryde Council invite from firms of ornamental cast-iron and structural engineers, sketch plans and estimates for the erection of an ornamental pavilion in the Eastern Esplanade Gardens, Ryde. Full particulars can be obtained from Mr. B. F. Holness, M.Inst. M. & Cy.E., Borough Engineer and Surveyor, Town Hall, Ryde, I.W.

Competitions Open.

	Particulars published in "Builder."	Sending-in date.
Papers on subjects connected with Heating and Ventilating. Two prizes of £10 10s. and one of £5 5s. offered by the Institution of Heating and Ventilating Engineers	Dec. 25	May 1
Isolation Hospital for Infectious Diseases, Doncaster. Mr. T. R. Milburn, F.R.I.B.A., assessor. Premiums: £200, £100, and £75. Apply, Mr. W. Bagshaw, Town Clerk, Doncaster, to whom all questions must be addressed by March 8. £1 1s. deposit required	Jan. 29	May 10
Elementary School, Oldbury, to be erected in Bristnall Hall-lane, Warley, Worcs., for the U.D.C. Mr. W. S. Skinner, F.R.I.B.A., assessor. Particulars of Mr. Arthur Culwick, Clerk to Council, Oldbury. Deposit £2 2s.	Mar. 12	May 21
Australian National War Memorial, Villers Bretonneux, France. Limited to Australians under special conditions. Apply Military Headquarters in capital city of each State, or High Commissioner's Office, Australia House, Strand, London. £2 2s. deposit required	Dec. 25	May 31
Royal Society of Arts Competitions for Industrial Designs. Apply Secretary, Royal Society of Arts	Jan. 1	June
(a) Dance Hall, (b) Restaurant, (c) Variety Entertainment Pavilion, (d) Shops, for Aberdeen Town Council. President of the Incorporation of Architects in Scotland, assessor. Apply to Mr. A. B. Gardner, Director of Housing, Town House, Aberdeen	Feb. 26	June 14
Buildings and lay-out of a new Cemetery abutting on Aylestone-lane, for the Leicester Corporation. Premiums: £100, £50, and £25. Mr. H. V. Lanchester, F.R.I.B.A., assessor. Apply City Surveyor, with deposit of £1 1s., payable to City Treasurer	April 16	July 12
Incorporated Architects in Scotland: (1) Rowand Anderson Medal and £100: City Art Gallery and Museum; (2) Rutland Prize (£50) for Study of Materials and Construction; (3) Prize (£10 to £15) for 3rd year Students in Scotland; (4) Maintenance Scholarship, £50 per annum for 3 years. Apply Secretary of the Incorporation, 15, Rutland-square, Edinburgh	Nov. 6	—

* Competitions when "warned" or vetoed by the R.I.B.A. are starred.

*Proposed new church, Monmouthshire	—	..	—
*Proposed new hospital, Gulsborough	—	..	—
*Downham Market U.D.C. Housing Scheme	—	..	—
*Scheme for building large residences, Cairo	—	—	—



From the Exhibition at the Leicester Galleries.

Sketch Design for a Monument to Sir Francis Drake.

From a Drawing by the late F. Derwent Wood, R.A.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Architectural Education.

Sir,—I was much interested in your comments on Mr. Dawber's address to students in your issue of April 16.

There can I think, be no doubt that the best way to educate the public to an appreciation of what is good and bad in architectural design is to give the public well-trained and educated architects. As you point out, the R.I.B.A. is doing its utmost to foster a proper training for architectural students, and spares neither time nor money to achieve a higher standard in this regard, not only for the sake of the profession but also in the public interest.

As one who is interested in this subject, I should like to take this opportunity of thanking the proprietors of *The Builder* for the very generous assistance they have given to the Board of Architectural Education by founding a scholarship for three years to ensure a good training for at least one young architect who could not otherwise have afforded it. This scholarship will be awarded in July. To those of us who work on these educational problems and give as much time as we can to them, such a practical proof of the importance of the subject from outside the professional ranks is a very real encouragement.

Maurice E. Webb,
Chairman, Board of Architectural Education.

Modern Architecture.

Sir,—To a layman, whose daily work is closely connected with architecture and building, the reading of the articles on Architecture that have appeared in recent issues of *The Builder* have been extremely interesting. The leading article in the issue dated January 22, headed "What is Architecture?" in which it was stated that "true architectural progress has followed and been the direct result of the determination to solve and not to evade the problems propounded by a given set of conditions," must have set many of your readers thinking, and thinking deeply.

Again, in the leading article in the issue dated February 5, upon "Evolution in Architecture," it was most pleasing to read that "the Royal Institute of British Architects had on many occasions led the world in initiating and organising international congresses to consider matters affecting the development of architecture as an art and as a liberal profession." Further, in the issue dated February 22, there is the report of a lecture by Mr. Manning Robertson, A.R.I.B.A., on "Modern Architecture," at the Cambridge University Society of Architects," in which he concluded by saying that we should produce an architecture that would induce our descendants to say: "The twentieth century was no longer an age of revivals and imitators, but that it evolved its own characteristic and powerful style of building that permeated all the buildings of the period."

These articles have suggested that it might not be out of place to put forward the views of Mons. Henri Favier, a French architect who, writing on modern architecture a short time ago in *Le Paris-Soir*, said:—

"Architecture, which is a pure invention of the human mind, ought to be synonymous with equipoise, order, and unity. It should adapt itself to contemporary civilisation. The present style no longer meets our requirements; it is too full of tradition, and is left very much behind by the march of science. The late war brought an abrupt evolution by perfecting the machine to the loss of art. Architecture must be changed by being adapted to industrial conceptions. To bring this about the architect must join forces with the engineer whose calculating methods have produced the new machine. The engineer has a method which is not clogged by memories of the past. The architect will only be able to make innovations by struggling against tradition, and by breaking through the ideas of those prejudiced against progress. There is a modern movement which denounces those tendencies, the chief aim of which seems to be to unite the art of the architect to that of the engineer. This must not be allowed, for, actually the division of the work is quite obvious. It is no longer the creation of an encyclopædic brain. The engineer has a very exact method—he calculates. The architect replaces calculation by imagination, being helped in that by a general scientific training. The architect is the artist who gives the idea to the engineer, while the latter turns it into money.

"*The Ideal Town.*—At present we live in towns built and planned for horse-carriages and not for the motor or aeroplane; for the pacific and homely life, and not for that which is becoming more and more out-of-doors and exciting. In the ideal city social and private life will be in an adequate framework. New buildings will be in harmony with new ideas, houses will have all sorts of labour-saving devices. Hygiene will come before decoration, baths before drawing-rooms. The practical, however, will not exclude the pleasure and beauty of life. One will not be without the other. They will be interwoven. New materials call for new modes. The modes should be simple, clear, and based on the first principles of geometry, and this does not mean that the house should resemble a soap-box, and the rooms doctors' operating theatres or cabins on a steamer. Old styles can be allowed so long as they are only for classification or organisation, but one will most surely banish the horrible style of palaces and bazaars.

"Will the public which travel in steamboats, motors, and aeroplanes, and which use 'wireless,' reject an exterior form so long as it is coupled with modern inventions? Will it turn down a façade of an ancient style if modern comfort be provided in the interior? Combining in a modern dwelling ill-matched or incongruous furniture is a perversion of taste without even the excuse of eclecticism. Can you imagine, for example, Gothic furniture in a Moorish house situated in the middle of a Louis XVIII park? Or a cargo steamer in which there is an elaborate dining-room and a stylish drawing-room? These would be anachronisms as detestable as a lift in the Palace of Versailles, or electricity in the Notre Dame Cathedral. The 'old' belongs to history, historic monuments and museums or other collections. Let us leave it there.

"*Laboratories.*—Now, the problem 'laid' for the construction of the modern town, the ideal town, is so complex that it cannot be solved by individual effort, but, by creating for young architects laboratories, one can obtain by a single blow a fertile collaboration; one can concentrate ideas and projects of pure architectural science, and thus be on the road to the sought-for solution. Finally, architecture is the composition of a civilisation. After the witness of a people has gone, it is the last vestige which remains. It should therefore be correct in order that it may not be forgotten."

Mons. Bernard Lecache, writing in the same edition of *Le Paris-Soir*, said: "Henri Favier is not one who frequents cafés because, from morning to evening, perched on a stool, leaning over his drawing-board, he works. However, he is not to be pitied too much, for he has been able, off his own bat, to realise two important works: first, in Paris, the house of M. Edgar Brandt, the ironmonger; and, secondly, at the Paris Exhibition, the gate of honour, more usually known as 'La Porte du Grand-Palais.'" To have accomplished these when one is still young and active must certainly count, and Henri Favier now awaits his turn, which will assuredly come. This he is doing both gracefully and modestly. To those who talk to him of "the house," he speaks of "the gate"; while to those who prefer "the gate," he answers, "I prefer the house." His theme is new architecture. He lives above all for his work, for he loves it. He is quite surprised to find that anyone is interested in him, though he undoubtedly finds satisfaction in it.

A. M. Giles.
London.

Height of Doors.

"*You may not do what you want to do, but you will make it easier for the next chap.*"—Sir Henry Irving.

Sir,—It is a matter of astonishment to find your correspondent, Mr. G. Reavell, in the issue of April 16, suggesting that all doors should be made by mass production of one uniform height. When a Fellow of the Institute, President of an important allied society, and a representative to the R.I.B.A. Council makes such a suggestion, the spirit of the age is clearly revealed. Assuming that Mr. Reavell's suggestion is adopted, we would arrive at a most common-place result. A door, 3 ft. wide, may be a good proportion when 6 ft. 7½ in. high, but a door 2 ft. 5 in. wide could not possibly possess any subtlety of proportion if the same height. One does not require to have studied the Parthenon or Karnac to arrive at this conclusion.

Mr. Edwin Gunn's proposal to carry the line of the architraves level and make up the difference in height of the doors with a panel or other treatment is certainly the proper method and gives greater scope for subtleties and variation. The manufacturers probably did not answer Mr. Reavell's question because the answer was too obvious. Let us cease to pander to the spirit of the age by (in the words of Addison), "Teaching the foe unequal war to wage."

Edinburgh. William Davidson.

Standard Doors.

Sir,—With further reference to Mr. Gunn's article and my letter, I had been in correspondence on the same subject with Messrs. Allan Bros., of Berwick, the largest joinery and timber merchants in this area, and among other things they throw this interesting sidelight on it:—

"There is one small point, from the timber merchant and saw miller's view, which I think may be worth mentioning. Timber comes to this country in a variety of lengths. Sweden send in 6 fts. to 19 fts. with a few longer, and if all doors are made one height there will be a great demand for one length of timber for styles. At the present time we find it difficult to meet this demand for 12, 13 and 14 ft., but if it is nearly all concentrated on 13 fts. matters will be worse. The same applies to architraves; at present the demand for 17 fts. is probably above the supplies, and we have continually to ask our customers what short lengths they intend to cut from the 17 fts. I only mention this small point, which I think may be of interest to you. I think everyone will agree with you that the present custom of having the same number of odd inches in the height as in the width is almost ludicrous."

I think it of sufficient interest to ask you to pass it to Mr. Gunn.

G. Reavell.

The Position of the Architect.

Sir,—The two letters by "Absolvi Meam Animam" and "Aide toi le Ciel t'aidera" on "The Position of the Architect," which appeared in your issues of April 9 and 16, state in a most convincing manner a long-standing irregularity in the conduct of the affairs of the profession. Might I be permitted to add a few items to the list, as follows:—Heads of Civil and Municipal departments (on the permanent staff) carrying on a lucrative private practice; Sanitary inspectors and other unqualified persons engaged in carrying out municipal housing schemes; photo printers doing draughtsmen's work and making feuing plans and charter plans for lawyers.

These may seem trifles to our great and successful architects, but by such work many an able and unknown man has paid his way until the gods smile. It is to be hoped that steps will be taken soon to rectify these and such matters.

Aliquid haeret.

Victoria 'Bus Station.

A new 'bus-station, similar to the one constructed at Wembley Exhibition, is being erected in the forecourt of the main-line station at Victoria.

THE CO-OPERATION OF ARCHITECT AND CRAFTSMAN.

At last Monday evening's meeting of the R.I.B.A., Mr. E. Guy Dawber, President, in the chair, two papers were read on this subject—by Mr. Gilbert Bayes and Mr. Laurence Turner respectively. Speaking mainly of the craft of the painter and the sculptor, Mr. Bayes said that at the present time we were passing through a curious stage of freaks and fancies, and it would be well to take a preliminary survey and try and see what forces were to-day influencing them—what was good in these forces and what would seem to be evil—he said would seem to be evil because one must remember that:

"Or ever a god rides out of the East crying a new dawn creed,
For every stone that is thrown in scorn the wounds of the old gods bleed.
For never a creed or a faith was yet, but once was a heresy.
Never a god first spake to man, but spake a blasphemy."

Now while on the one hand we must expect change, change simply for the sake of change became restlessness, and to cut oneself clear of the past was only to be a plant without roots that would quickly die. At no time in the history of Art had the artist been more capable of realistic representation than he was to-day, and for a number of years this had been made the chief aim and ambition of the greater number, and this was apparently due to certain conditions peculiar to to-day. First, that a comparatively small portion of the yearly output was in any way applied to its true use—the function of decorating. Secondly, to the fact, as the Prime Minister recently said, that the days of the Medici are passed—in other words, that the patron, in the old sense of the word, was virtually, if not quite, extinct, and since we must show our work and have some way of expressing our thoughts, the yearly exhibition had come into being.

Now the exhibition, valuable as it undoubtedly was up to a point as a place to show our experiments and have a certain freedom, became a menace if depended upon too far, and this was what was happening at present. It tended to introduce quite arbitrary fashions, plants without roots. In the best periods, as far as one could gather, all men were craftsmen and had learnt their craft from the base upwards, generally being apprenticed in their very young days to masters from whom they early learnt all the technical side of things, so that, at the age when we generally start, they were fully equipped with the knowledge of tools and materials. They also operated over a much wider field, and the one man was often painter, sculptor, and even architect. To-day this was a very difficult thing to achieve, and we should have the closest possible co-operation to take in some measure the place of these conditions of training.

As an example of the unsuitability of the usual exhibition work for decorative purposes, he would quote the Hotel de Ville in Paris. At one time he went regularly to Paris to see the Salons and was conversant with the paintings shown each year and the tendencies of the painters, but it was not until some time after, when he was studying there, that he saw the Hotel de Ville with many of the paintings, that had previously been known as the pictures of the year at the Salon, upon its walls and ceilings. It was a terrible shock. Realistic oxen more than life size ploughing towards you from the ceiling, apparently real people in crowds all round the walls, with strong perspective cutting away all feeling of support. Only two men came through with flying colours, Puvis de Chavannes and Henri Martin. The Pantheon in Paris might be taken as another example from which Puvis and Humbert stood out as successful, the most terrible failure being Detaille's "Cavalry Charge"—enormous real men and horses tearing towards you. And many cases in both crafts might be added to these where realism had failed.

And now, since realism had about reached its height, if indeed it had not fallen over the other side, and since we had found realism and realism only unsatisfying and when used with architecture unsuitable, a reaction had set in and men played at being primitive, and thought as long as the thing was unlike nature it must be Art; quite failing to realise that the primitives were being as realistic as they knew how to be, and though their simple, almost childlike, outlook helped them to make decorations, we had to arrive at our results differently.

In the past realists under-rated the value of form considered in the abstract, so there was now a school that made everything in circles, squares, triangles, or other geometric forms, and the last state of that art was worse than the first.

He had every sympathy with those who felt that realism, as such, was played out, and that abstract form must receive more consideration, but he was quite certain that the modern school was going much too far, and was throwing overboard a great deal that was necessary, and had there been closer co-operation between the architect and the craftsman, both the craft side and the art side would be in a much healthier state to-day, and the sculptor and the painter would have had their very proper desire for abstract form satisfied in making work suitable in scale and treatment and colour for the building which it was to adorn.

Some time ago it seemed to him that architects were designing some quite dignified interiors, but designing them with the definite idea of excluding the art of painting. To-day the same thing seemed to be going on with regard to sculpture on the outside of buildings, and this brought him to another point. Many of the painters in the early Victorian times went in for the historic or narrative picture, and sometimes it was all history or narrative and not much visual beauty, with the result that we had recently had a school throwing all subject overboard, trusting instead in the technical quality of painting to make the thing a work of interest, but using subjects that seldom had any appeal outside this. Again, surely this was going needlessly far; surely there was no reason why a work should be held to be any less good because it was able to interest a person who had no art training. He suggested that in these things it was part of our duty, if work was put up in public, to see if we could not put up something that would be of interest to the people who had to live with it, and that it could be done in most cases without any detriment to the art practised.

In architecture the entasis on a column or the balance of a building might be a very fine thing, but it was not enough to hold the attention of the unsophisticated, and he would urge that here sculptors could help the architect, in fact they were necessary to him. A craftsman might have ways of getting round a difficulty that the architect might not know, just as the architect had difficulties that the craftsman had not realised; one of his difficulties was, of course, cost, but even here the craftsman might be of use in suggesting the alternative treatment or material. The Germans often seemed in their modern work to manage the interweaving of their sculpture with their architecture better than we did, and though one may often not like the work in detail, the weight and mass was constantly most successful. America also had done very fine work in applying sculpture to architecture, and there, he was told, the sculptor, in some cases at least, was called in at a much earlier stage to co-operate with the architect, and the work between the two was apparently much closer than was usually the case here. Of course, one could recall cases where this co-operation had been almost perfect, but it was the exception rather than the rule. If architects and sculptors were to fulfil their true destiny they must not be separate, but each a part of the other, and they would then become part of the life of the people instead of being looked upon as curious excrescences of doubtful value.

Mr. Laurence Turner said, as a carver, he could only speak from the somewhat limited point of view of the decorative craftsman who was engaged in executing architectural ornament in wood, stone and plaster. To make men keener about their work, it was necessary that the architect, employer and men should get to know one another better; that there should never be the slightest suggestion that men were machines or "hands," as they used sometimes to be called. It was important to keep a well-balanced set of men together, so that they got to know and trust one another, as well as their employer. Above all, that they should get to know the character of the work the architect required to be done for him.

He (the speaker) thought it was most important that architects should continue to employ the same men to do their work. Not to jump about from one firm to another because A happened to tender a price a little lower than B, although B had often been employed before. That was not the way to get good work done. There was no longer the same amount of interest taken in work, which was competed for, and obtained by cheese-paring prices. It was a pleasure to the men to receive a visit from an architect they respected. They looked forward to his coming, and did not treat him as an inspector, from whom everything had to be concealed. He remembered one imperious architect who had come to look at some work he (the speaker) was doing, which was difficult to produce, and to whom he appealed for advice. The architect said "it was not his job to say how it was to be done." That attitude of mind was antagonistic to co-operation. It damped one's ardour, and was provocative of retaliation. Most of them must have experienced the pleasure it was to receive a kindly, sympathetic letter by the morning's post, and what a difference it made to the pleasure of the day's work.

There were so many ways in which the craftsman might be helpful to the architect. He supposed there was no part of an architect's art about which he was more sensitive to criticism than the section of his mouldings. Yet there were many instances when the carver could help him very materially, particularly with regard to the mouldings which had to be carved, because the mere fact of carving them took away from their bulk, and consequently they required to be differently designed. Again, there were many instances in which the architect might not fully understand the quality of the stone or marble that he had selected, and his mouldings might not be adaptable to the texture of the material. The selection of stones and woods, and the suitability of the design of the material, might well be subject for mutual consideration. In plasterwork, for instance, considerable knowledge was often required to determine how a decorative ceiling should be made—how much of it should be solid plastering; how much should be fibrous plastering; whether the ornament should be applied or "bedded"; or whether parts should be "run."

He would like to see architects in the workshops more often than they were, and not only the architect but the layman as well. He believed that if the public could see and know how good cabinet work was made, they would not always be on the look out to buy the so-called cheapest goods. They would soon

know that there was a limit to cheapness when it cut out honest labour.

He believed most craftsmen took the utmost pains to produce the very best result they could from the designs supplied by architects. Occasionally the taste of the architect might be so much in direct opposition to that of the craftsman as to make the execution of the work tedious, but even then, although he (the craftsman) might not be helpful in adding interest to the design, he would have the work carefully carried out.

As to the making of designs for modelling or carving, it was a mistake for architects to design everything. To put it quite plainly, no designer could ever know what he ought to expect from a craftsman in any material if he had not worked in that material himself. Most designs for carving were far too intricate and crowded, because they were drawn on paper and no allowance had been made for the effect of the work when in relief. The ideal position for the architect to take was to design his building, to suggest the main lines of the enrichments, and to leave the detailing of the embellishments to the man who had to carry them out. If he said the man was not capable of doing so, it was evident he had gone to the wrong craftsman. When elaborated drawings were put before a carver, and he was told to go his own way and ignore them, but to keep to the character of the design supplied, it was obvious he could not do so. When once a piece of carving had been photographically presented, how could the craftsman forget or ignore it, and then go his own way, but still keep to the type of the ornament submitted to him?

For his own part, he would like to have more constant visits from architects, to watch the progress of the work being executed for them on buildings and in the workshops, provided they came with the intent to be helpful, to assist in making the work more beautiful, and the men more enthusiastic. The speaker concluded with a plea that the work of craftsmen should receive better recognition. It was of but small interest to be told the name of the unveiler of a memorial, or the opener of the door with a golden key. What should be announced were the names of those who had assisted by their art in producing a beautiful creation. The purely commercial man or firm, as a rule, had much more prominence given to his name and goods than the men who by their co-operation in the arts had produced a beautiful building.

Discussion.

Mr. Irving K. Pond, Past-President of the American Institute of Architects, proposing a vote of thanks, said architects had to know of the flow of the forces of the materials in which they designed, and unless they knew the "feel" of materials they could not produce worthy work.

Mr. Oswald P. Milne, seconding the vote, said architects were often tiresome people, but were not told often enough how tiresome they could be. Mr. Turner had been very frank, while Mr. Bayes had been rather lenient towards them. The architect, he continued, did nothing but conceive the work, and it was only through the craftsman that the conception could be realised. Nowadays we were perhaps more restrained in the use of sculpture and painting than we might be.

Mr. C. F. A. Voysey said he, personally, was greatly indebted to craftsmen, who had helped him to be an architect through all his life. He then related how a certain architect entrusted some work, on the one hand, to a carver, and on the other, to an eminent R.A. The work of the carver, done under the architect's supervision, was quite satisfactory, while that of the R.A., who was left to do as he liked, was the reverse. It was a subtle point, said the speaker, how far the architect was justified in controlling the craftsman.

Mr. H. B. Creswell said it was a great pleasure to see craftsmen at the Institute. He recalled that some time ago he suggested through the Arts Committee that a register should be made of individual craftsmen for the information of members, but the proposal was turned down on the then President's casting vote. He had no regrets, for what he had suggested was an innovation, but he was glad to say that the Institute had now set up a committee to safeguard the interests of craftsmen. They had talked for years about the craftsman, continued the speaker, but no one employed him. It was their duty as men, apart from their duty as architects, to see that the individual craftsman had an opportunity of doing the work he wanted to do.

Mr. Reginald Hallward said that though he was much in sympathy with Mr. Creswell's views, it must not be said that craftsmen were perfect and architects imperfect; it was not a case of architects *versus* craftsmen. They were not able, indeed, to determine the doctrine of what was "craftsmanship." He had heard that word repeated over and over again for the past thirty years, and it was becoming rather tiresome. At the back of it all was human life—the human relations of men one with another. It was the artist in each that united them.

Mr. George Sheringham said that to-day few buildings were decorated by the painter in collaboration with the architect. Many young painters were coming on who, he thought, should be given a chance.

Mr. L. T. Buckley, speaking as a builder, criticised architects' drawings, which, he said, were often very difficult, if not impossible, to carry out.

Mr. W. H. Ansell said that the present system of architectural education in the schools was likely to have some influence on craftsmanship. To-day students no longer followed a varied career, but all worked more or less on the same lines, and there must be a similarity of thought in the matter of design. He suggested that it would make them better architects if students were brought into touch with craftsmen and given a certain amount of training in craftsmanship.

Mr. Darcy Braddell said he thought the boot was on the other foot—painters and sculptors ought to learn the elements of architecture; they ought to know about spaces in architectural design and why architects wanted spaces. Quite recently a young painter admitted to him that he knew nothing about architecture; in fact, was not interested.

Mr. Maurice Webb said to-day architectural students in the schools had to spend one year out of five on practical work. He agreed with Mr. Braddell that it would be a good thing if young sculptors and painters spent a little time in an architectural school to gain some general knowledge of architecture.

Mr. H. M. Fletcher drew attention to the architectural courses which are being carried on at South Kensington under the direction of Professor Worthington, who, he said, was getting extraordinarily successful work out of young painters and sculptors. With regard to Mr. Voysey's story, he (the speaker) thought the architect did wrong in letting the R.A. do as he liked. Architects knew that when they had conditions to fight against they put all their wits into it, and the work became interesting. The architect ought always to lay down conditions for the craftsman and give him a sketch to show what he wanted.

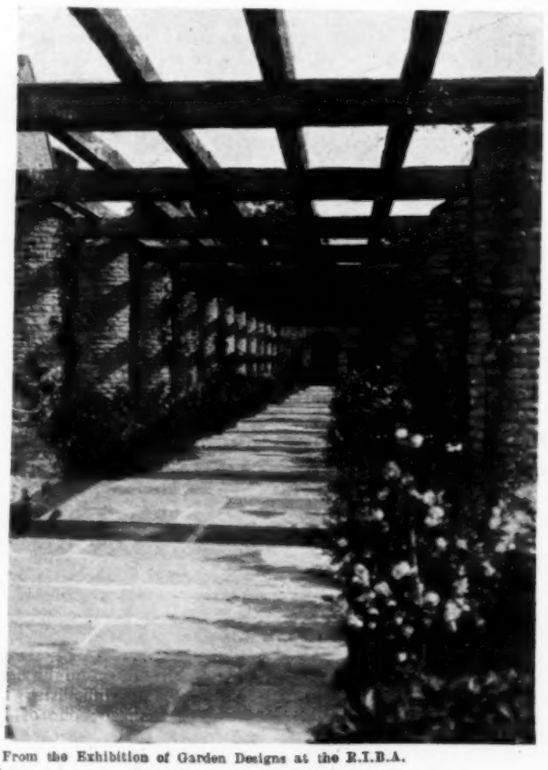
The President said he had spent five years of his life in daily touch with craftsmen, and to-day he found nothing more enjoyable than walking round his jobs talking to the workmen; every day he was learning something from them. As architects, the more they understood of craftsmanship, the better for their work and the better for themselves.

The vote of thanks was then put to the meeting and carried with acclamation. Mr. Bayes and Mr. Turner briefly replied.

PICTURE EXHIBITIONS.

The paintings and drawings by James McBey at the Colnaghi Galleries in Bond-street have evidently been to the taste of the picture-buying public, for only three or four remain unsold in the upper gallery. The artist has made a number of excellent pictures, with here and there outstanding success, but his remarkable talent as an etcher seems likely to remain the dominant value in his artistic personality.

The fine colour in the pictures by Sarters Katchadeurian at the Fine Art Society, is very attractive to us, especially when compared with so much on show which is either bizarre or feeble. His "Slumbering Village" is perfect of its kind.



From the Exhibition of Garden Designs at the R.I.B.A.

Pergola, Great Rissington Manor, Glos.

Messrs. Falconer, Baker & Campbell, Architects

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ILLUSTRATIONS

The Cecil Theatre, Hull.

The entrance to this building is at the junction of the two main roads in the centre of the city, and at this angle of the building, is a circular entrance foyer approached by three pairs of entrance doors. A feature of the planning is the provision of crush halls both on the ground floor and first floor to obviate outside queues. There are two entrances from the crush hall to the auditorium itself, and the auditorium is practically square and is entirely free from all columns, so that every seat in the building has an unobstructed view of the orchestra and screen. The balcony itself is carried out in one full span of 85 ft. The one principal girder upon which the balcony is built is designed to carry a load of 600 tons, spans 86 ft., and is 9 ft. 6 in. in depth. The rake of the ground floor is only 1 in 12 for half the length of the auditorium, and the remainder of the floor is level. Two organ chambers are provided. An air extract ventilation system is provided designed to enable the changing of the air six times per hour. A Sturtevant vacuum cleaning plant is arranged with the plug points so as to enable every portion of the building to be reached with vacuum nozzles. The heating is by low-pressure hot-water system, and provided with an accelerator. The electric lighting of the auditorium is arranged with main electric fittings for general lighting purposes, and there are coloured lighting effects behind the fibrous plaster grilles in the ceilings and walls. The coloured lighting effects are also arranged in connection with the electrically operated curtains, and these are worked through dimmers. The colour scheme is of mauve and silver. There is seating accommodation for 1,700 persons, 700 in the balcony and 1,000 on the ground floor. In connection with the theatre there is a cafe 65 ft. long and 40 ft. in width. The front elevation of the building is carried out in a combination of artificial stone and Ravenhead rustic bricks.

The general contractors were Messrs. Con. Greenwood & Sons, Ltd., of Hull. Steel construction, Archibald D. Dawnay & Sons, Ltd., London; heating, Rosser & Russell, Ltd. of Leeds; ventilating, Chas. Raine & Sons, Ltd. Hull; organ, Fitton & Haley, Leeds; generator and projection apparatus, Crompton & Co. Ltd., Sheffield; seating, Holmes & Moore, Ltd., Hull; wood block floor, Hollis Bros. & Co., Ltd., Hull and Leicester; electric fittings, General Electric Co., Ltd., Hull; passenger lift, Gimson & Co., Ltd., Leicester; electrical installation, The City Electrical Co., Hull.

Messrs. Blackmore Sykes & Co., of Hull, are the architects.

House at Hove.

The special requirements of the plan in the case of this house were the provision of a large sitting room and study, with a front porch which could be used for reading in warm weather, and a north porch for meals and other purposes in extremely hot weather. It was a condition of the plan that this porch should have easy access to the kitchen. Particular attention was paid to the kitchen arrangements, and resulted in the installation of a "Triplex" stove, cross-connected to the heating system, a "Clarkhill" gas boiler, so that hot water can be obtained either from coal or gas. Two sinks are fixed in the scullery, and connected to them is a plate washer and close to the scullery door an "Easiwork" kitchen cabinet. The exterior of the house is carried out in rough-cast distempered white, the woodwork painted black, and the paving to the porch, &c., in red coloured brick. Messrs. John Marsland & Sons, Ltd., were the contractors, and Messrs. T. P. Bennett & Son, the architects.

Houses on Hawthorn Garden Estate, Llandaff.

This block of four houses has been designed to comply with the requirements of the subsidy, and will be built in 11 in. rough-cast cavity walls, finished white. The roof will be covered with multi-coloured Welsh slates, and the plinth and exposed brickwork will be formed of Cotybrook brindled bricks. Mr. Gordon Griffiths is the architect.

Holbrook School.

The scheme which we illustrate this week, by Mr. E. Vincent Harris, F.R.I.B.A., was placed second by Sir Aston Webb in the competition held some time ago. The winning design, by Messrs. Buckland & Haywood, was illustrated in our issue for May 8, 1925. In the design now shown the whole of the hostels are planned on the level contour across the site with a south aspect, connected up by a covered way which enables the whole of the school to form up in columns of four under cover and approach any department in wet weather with complete supervision from the centre. The chapel, school, dining hall, swimming bath and gymnasium are placed on the four sides of the Quad, which is the focal point of the plan.

Memorial to the Missing, Lille.

This design, by Mr. V. O. Rees, received the second premium in the recent competition. The first premiated design, by Mr. H. C. Bradshaw, was illustrated in a recent issue. The design now illustrated consists of a circular colonnade of 30 ft. internal diameter, screened by walling on the outside. Provision for 12,000 names is made on the inside face of this wall. The total overall diameter is 56 ft. Continuity and monotony were sought for; and to emphasise the severity necessary for such an occasion, mouldings were eliminated as far as possible. Sir Aston Webb, R.A. was the assessor.

Public Hall, Topsham.

We illustrate this week the winning design in this competition, by Messrs. Boddy & Dempster.

Eyford Park, Gloucester.

The original of this illustration is now on view in the Exhibition of Garden Designs at the R.I.B.A. Mr. E. Guy Dawber, P.R.I.B.A., is the architect.

BOOK REVIEW

The Secret of High Wages. By Bertram Austin and W. Francis Lloyd. London: T. Fisher Unwin, Ltd. 3s. 6d. net.

The lamentable condition of trade in this country, and the more or less complete failure to diagnose the cause of the depression, make all of us ready to grasp at any straws. Consequently the little book, "The Secret of High Wages," written by Messrs. Bertram Austin, M.B.E., M.A., and W. Francis Lloyd, M.A., A.M.I.E.E., is certain to arouse much interest.

The authors set out to find what was the cause of America's prosperous condition—not what was the cause of the depression in England. Their object, clearly, is to show that to rival America's prosperity we must do as America does. But even if we admit for the moment that there is something to be said for this method of procedure, it is essential to be sure that the analysis of American conditions is perfectly sound. Throughout the book many statements are taken as axiomatic which we are unable to accept without further investigation. For instance, on page 14, amongst the factors which have "*undoubtedly*" (the italics are ours) contributed to the prosperity of America are "the good prices obtained for the crops, the low debt burden and low general taxation, the improvement in the banking services to the community, and, last but not least, the far-sighted policy of the Federal Reserve Board in not allowing a credit expansion based on the gold influx which has taken place in recent years. This latter factor has been responsible for preventing the rise in the general level of prices which was anticipated by many European authorities." We do not attach much importance to these factors. A low debt burden and low general taxation do not necessarily accompany flourishing trade conditions. The last few years have provided instances in Great Britain, Germany and France of thriving industry, combined with a high debt burden and high taxation. Theoretically, one would expect a nation in debt to work harder so that it may pay off its debts in addition to securing its own livelihood. Still more debatable is the statement that the far-sighted policy of the Federal Reserve Board is in part responsible for the present prosperity. It is not many years since, under the same banking system, America experienced an enormous slump in prices accompanied by great dislocation of trade. Evidently the Federal Reserve Board could not control the position then, and there is much to be said for the point of view that the present prosperity is a thing quite apart from banking policy. Moreover, there is a weighty volume of opinion in favour of the view that we in this country have little to learn from America in banking matters. We are not at all sure even that the present prosperity in America is "unprecedented."

There will be few who will disagree in the main with the nine chief heads which are stated at the end of the first chapter and developed in the following chapters. Also there is much common ground in the remaining chapters dealing with Distribution, Company Finance, Consumption and Saturation Point, and Markets and Productivity. We quote a short extract from the concluding chapter because we think it sums up in a few words the position which has to be faced. The authors say:—

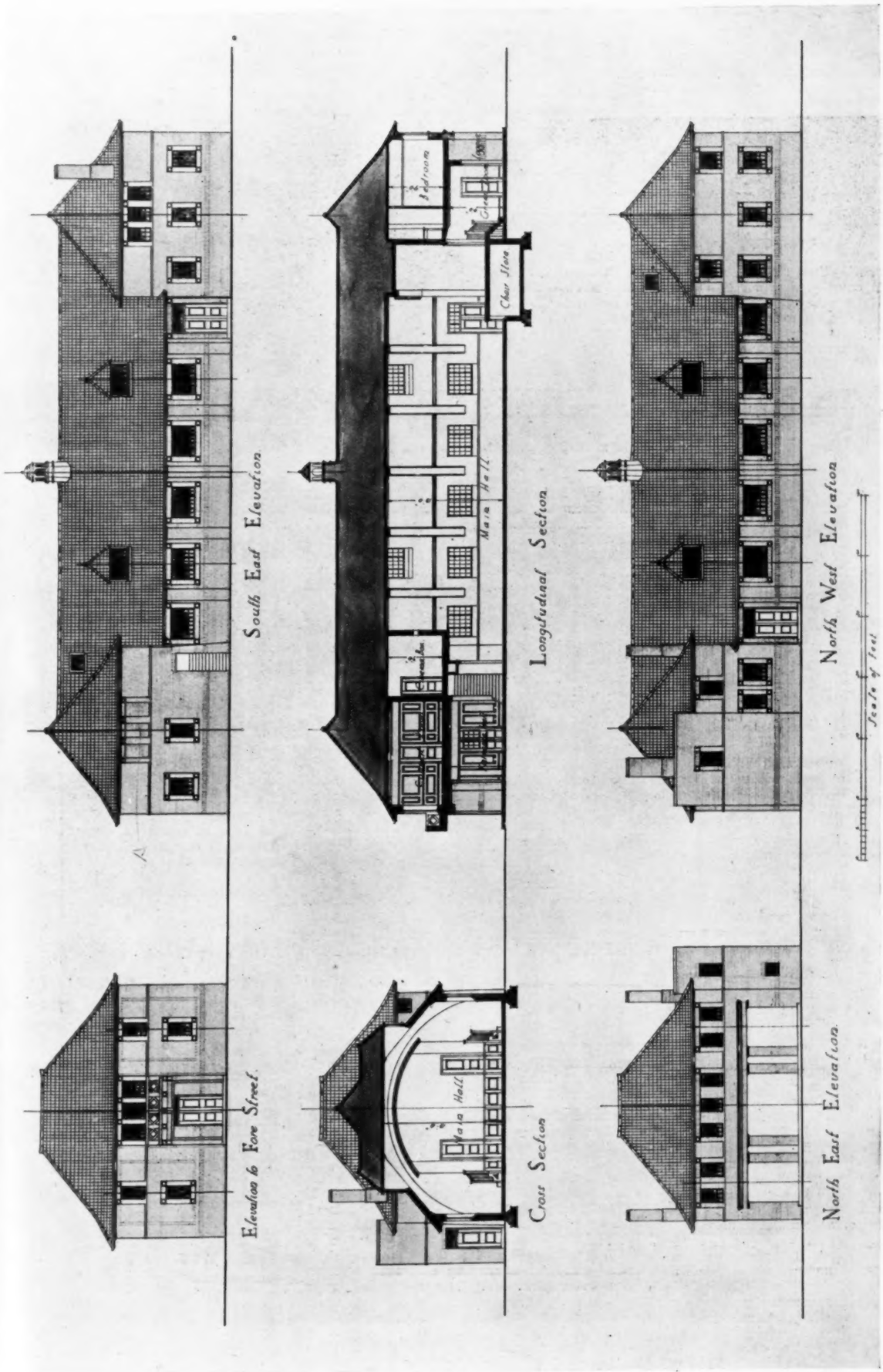
"Trade Unionism is out for better wages and conditions of living for its members. Employers are out for profits. The frequent occurrence of disputes might at first lead one to think that for the one to succeed in its objective, the other must needs fail. America shows us that it is possible for both sides to obtain what they desire. If employers and Trade Union leaders would only realise this fact and cease to regard each other as obstacles to the attainment of their aims, a very great step would be taken towards the rehabilitation of our industries. Neither can succeed without the help of the other."

But surely this much has been realised for a long time past by many enlightened leaders on both sides. There still remains the problem, however, of how to get our industries speeded up to their pre-war limit, or better.

The book is addressed in large part to employers of labour; we think it is equally worth study by the Trade Unions and their members. At present a point has been reached where the Unions seem to be concentrating so much upon high wages that they are apt to lose sight of the fact that high "real" wages cannot be hoped for whilst there are about one and a quarter million workers unemployed. The great problem is to find out how to get rid of this unemployment. Even though the book does not carry us much further towards the solution, the authors deserve our thanks for a very clear and interesting account of the position in America. Although we have explained that we do not altogether agree with their premises, it is only fair to say that we fully realise their difficulties in condensing into a little book of 111 pages sufficient matter for a large volume. Their visit to America has been well worth while: their book is provocative of thought, and we hope it will be widely read.

Topsham Public Hall Competition : First Premiated Design.

MESSRS. BODDY & DEMPSTER, Architects.



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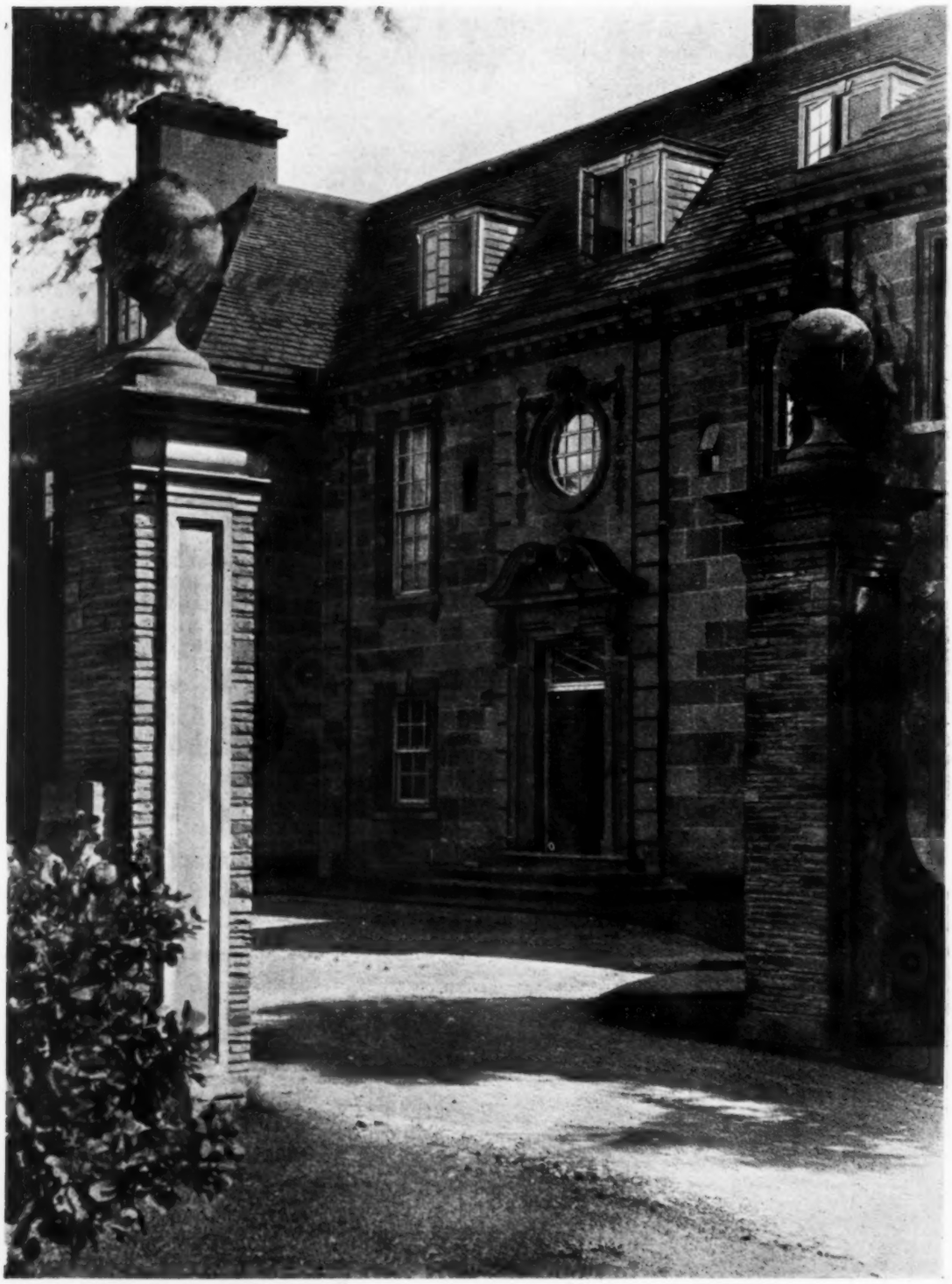


From the Exhibition of Garden Designs at the R.I.B.A.

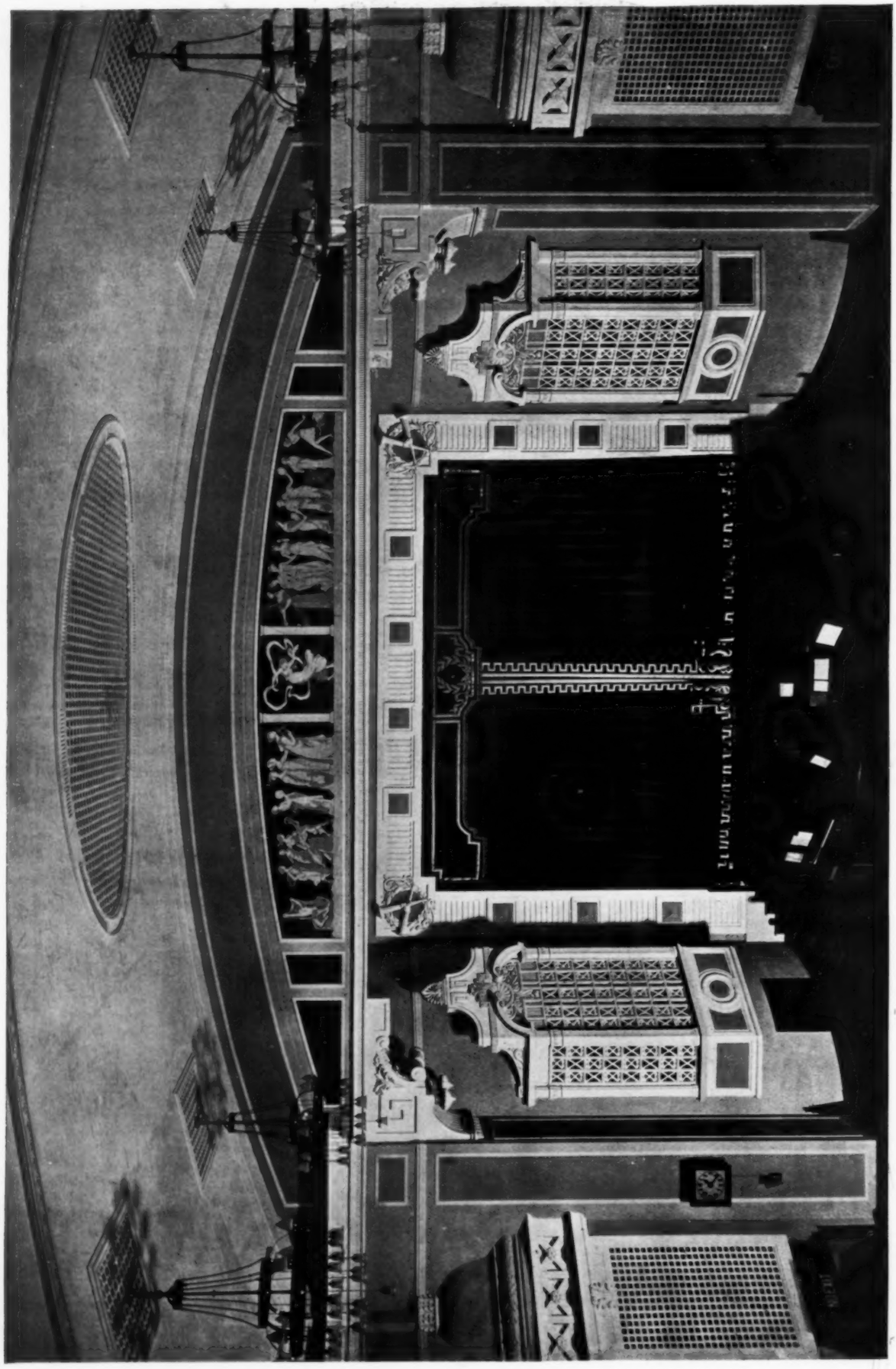
Eyford Park, Gloucestershire. Mr. E. Guy Dawber, P.R.I.B.A., Architect

THE AUDITORIUM.

THE RESTAURANT.

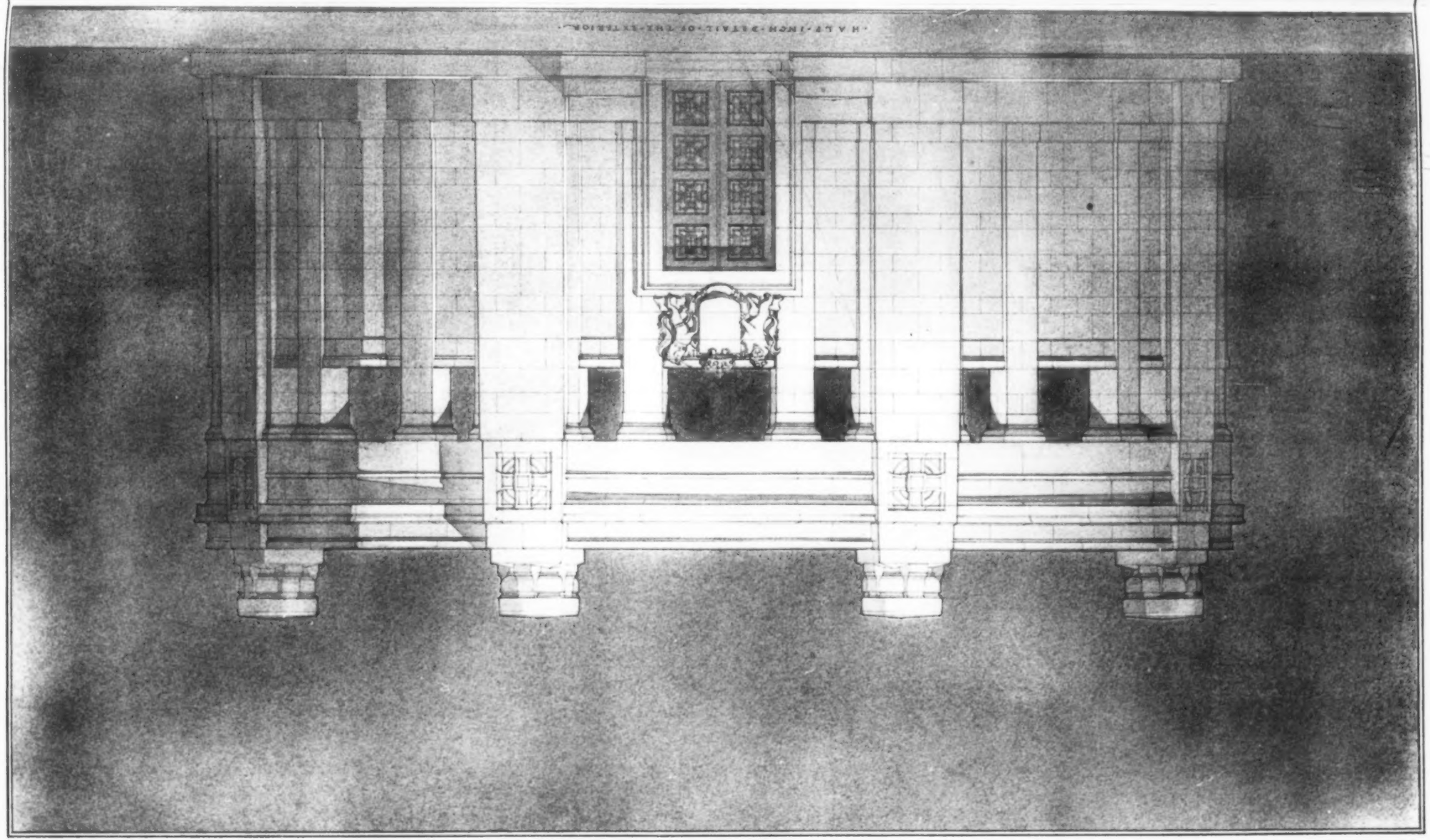
The Cecil Theatre, Hull.

MESSRS. BLACKMORE SYKES & Co., Architects



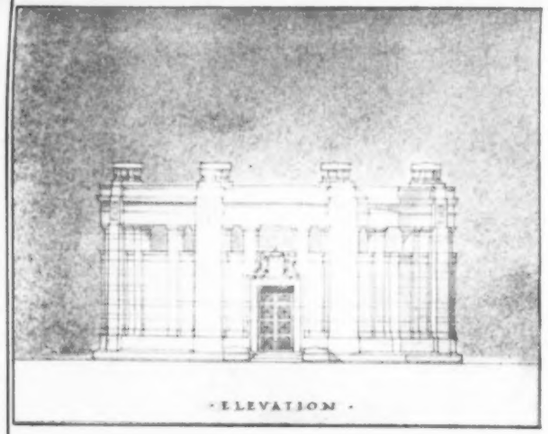
The Cecil Theatre, Hull: View looking towards Stage.

Messrs. Blackmore Sykes & Co., Architects.

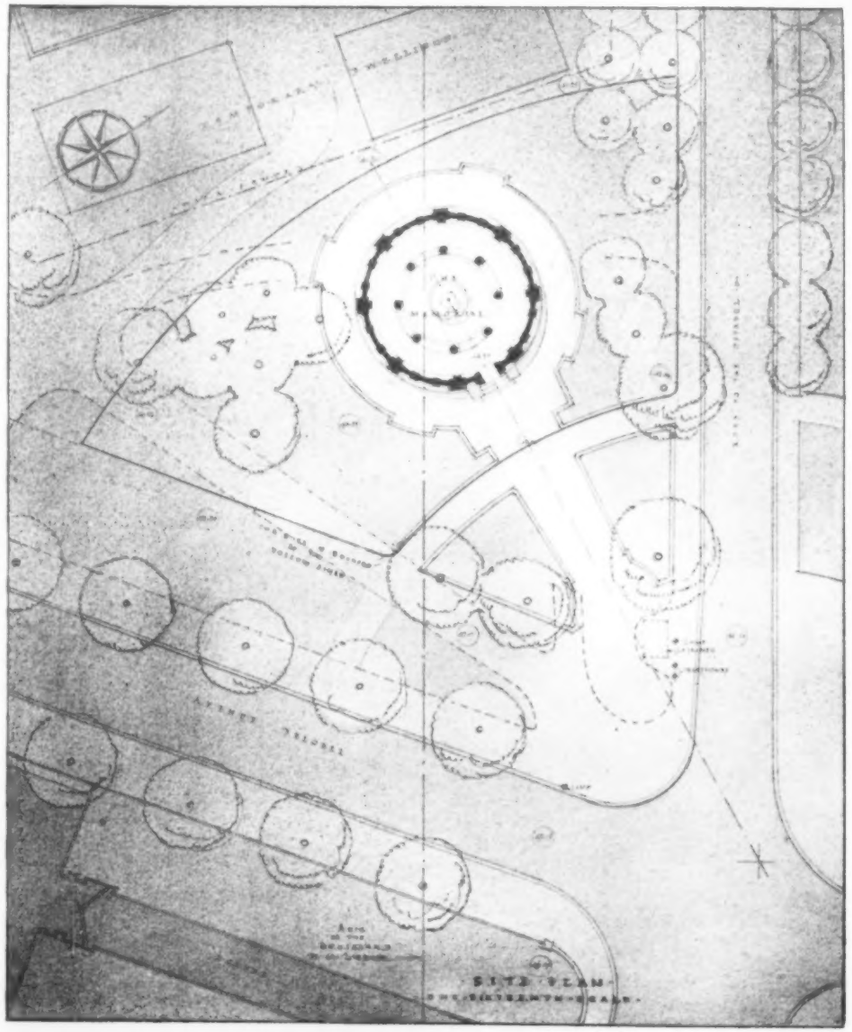


HALF-INCH DETAIL OF THE EXTERIOR.

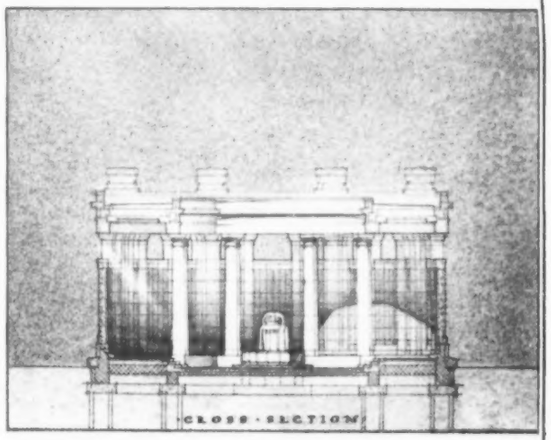
HALF-INCH DETAIL OF THE EXTERIOR



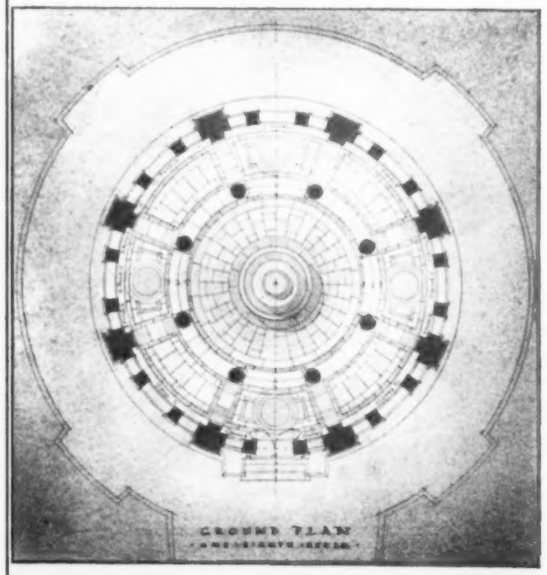
ELEVATION



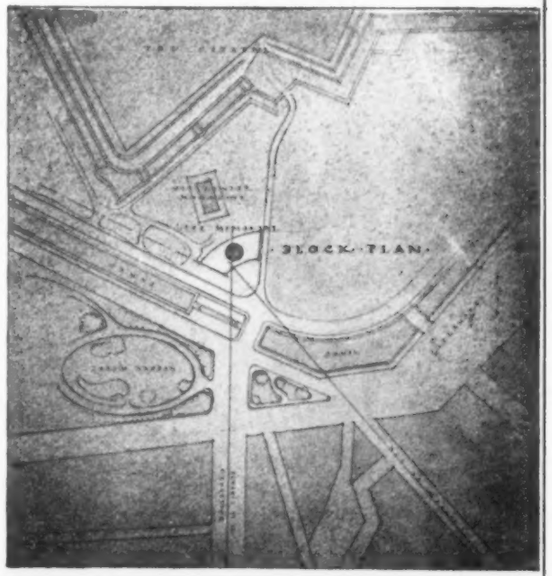
SITE PLAN



CROSS SECTION



GROUND PLAN



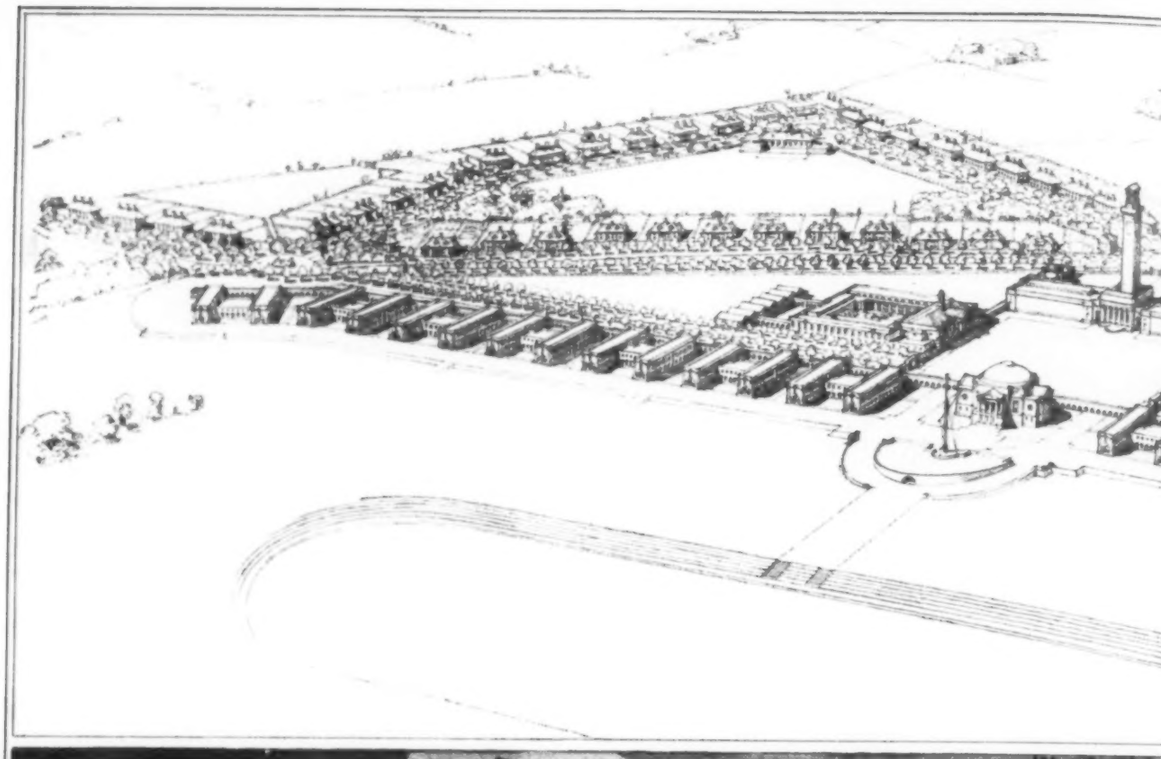
BLOCK PLAN

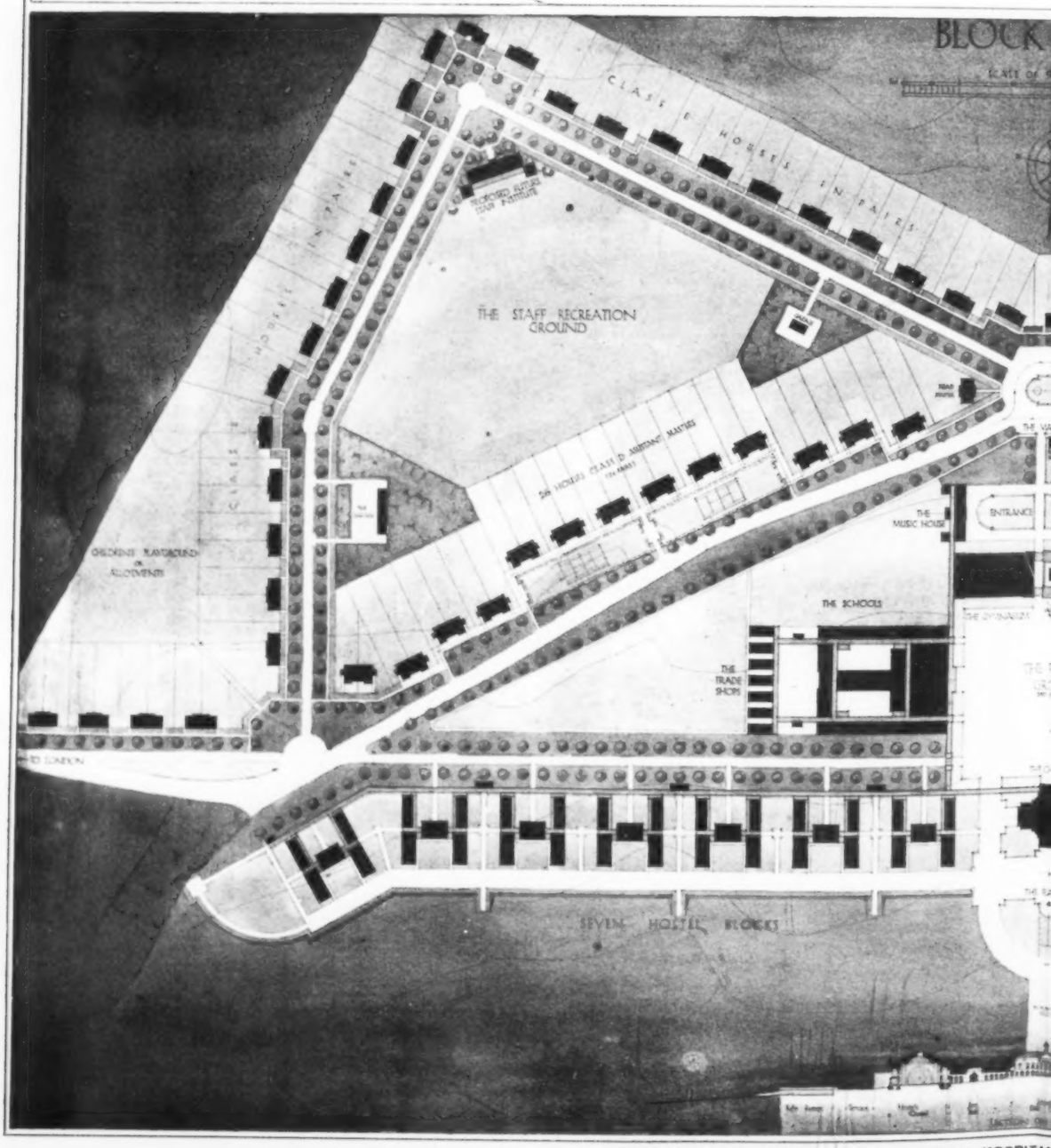
PROPOSED MEMORIAL TO THE MISSING AT LILLE

MEMORIAL TO THE MISSING, LILLE.

SECOND PREMIATED DESIGN, BY MR. V. O. REES, A.R.I.B.A.

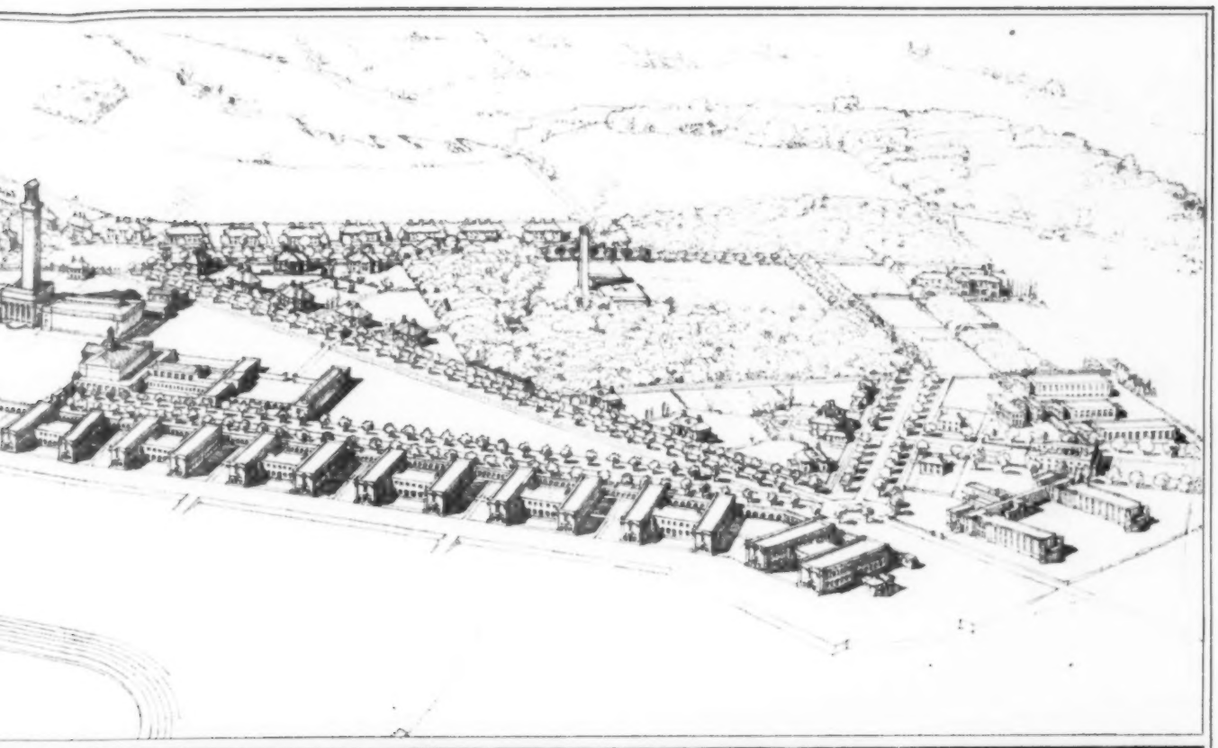
UNIV OF MICH.

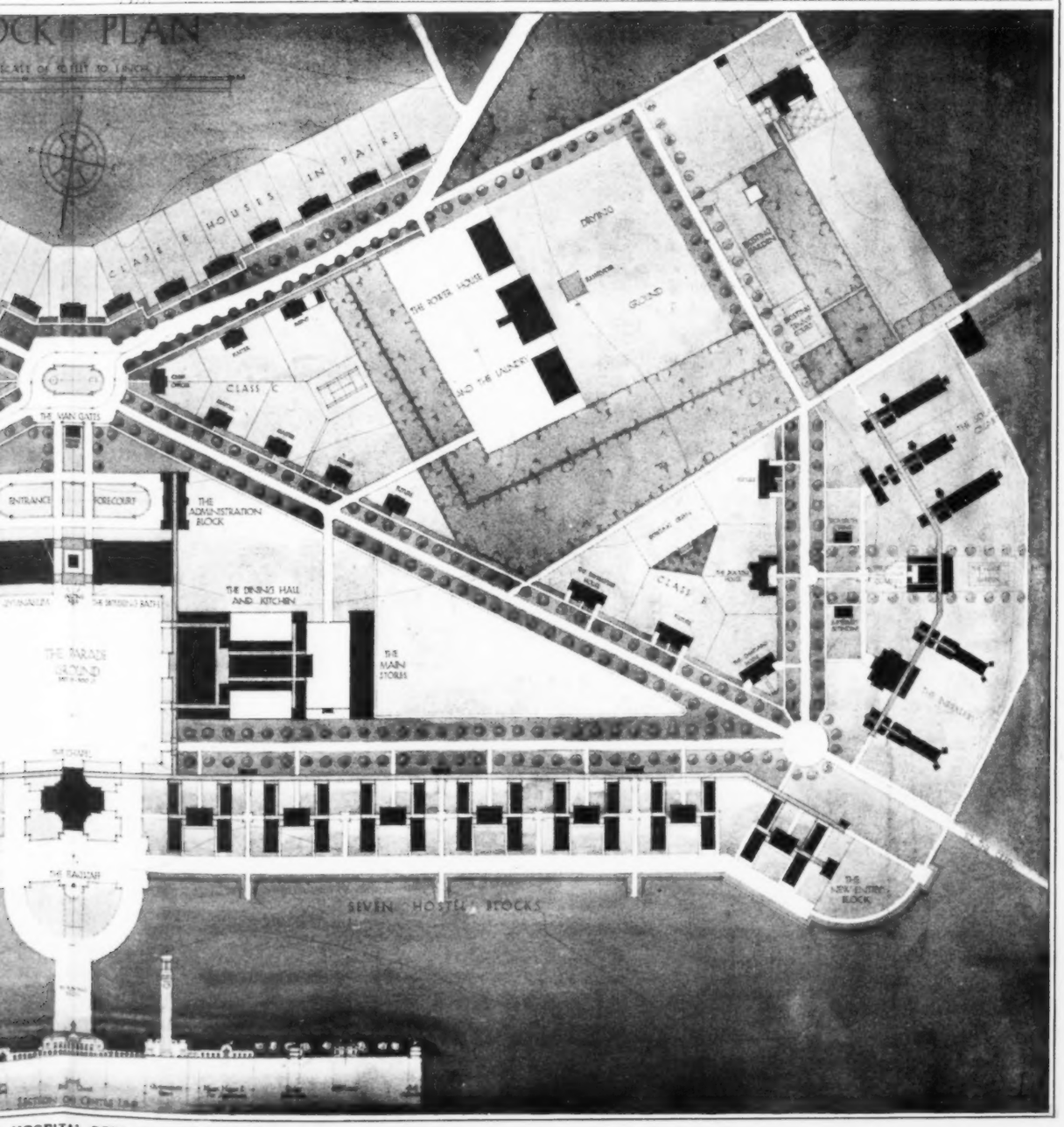




DESIGN PLACED SECOND FOR THE ROYAL HOSPITAL

By Mr. F. VINCENT HA

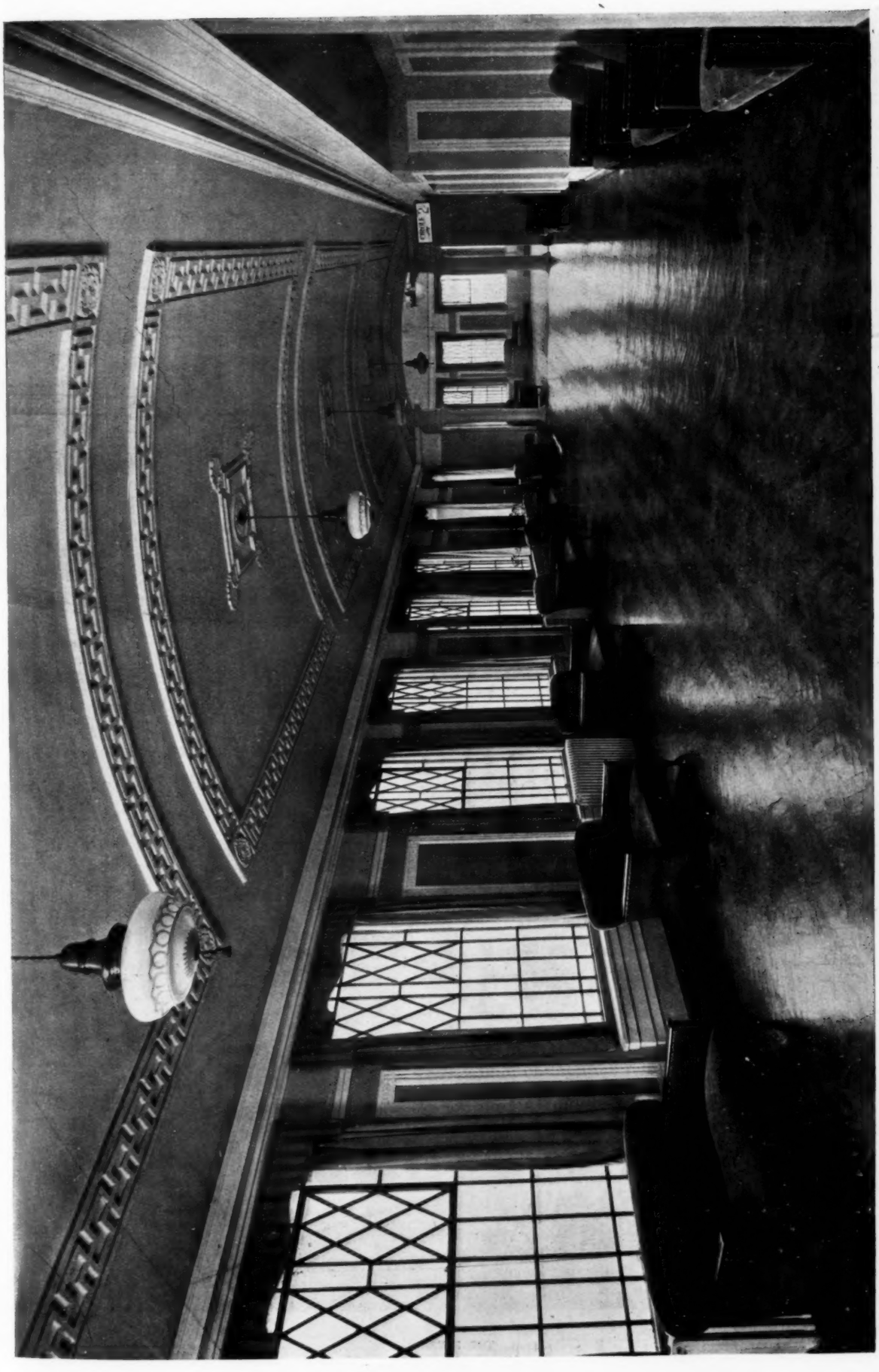




HOSPITAL SCHOOL AT HOLBROOK, NEAR IPSWICH,

VINCENT HARRIS, F.R.I.B.A.

STATE OF MICH.



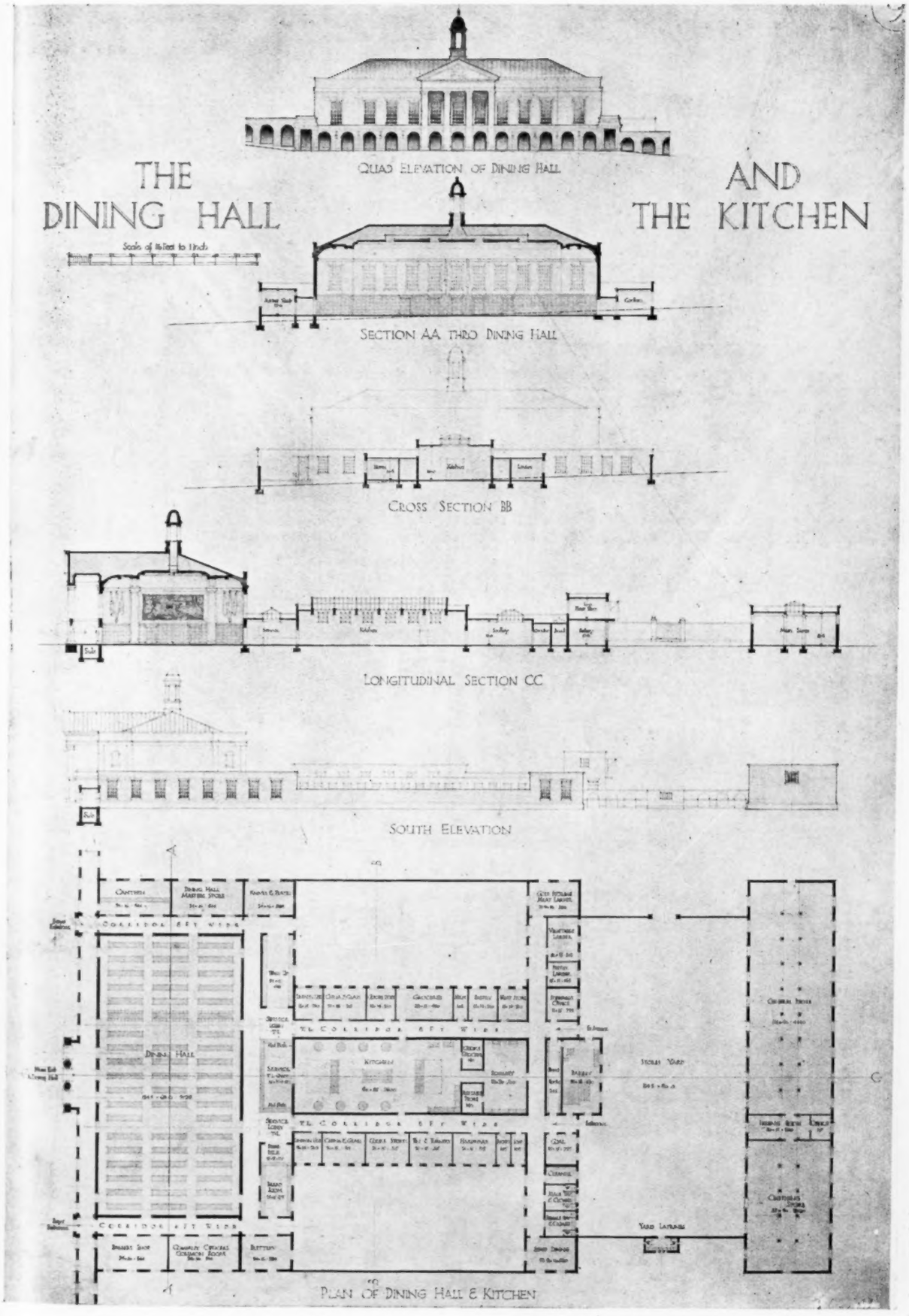
The Cecil Theatre, Hull: The Lounge. Messrs. Blackmore Sykes & Co., Architects.

GENERAL VIEW OF EXTERIOR.

THE FOYER.

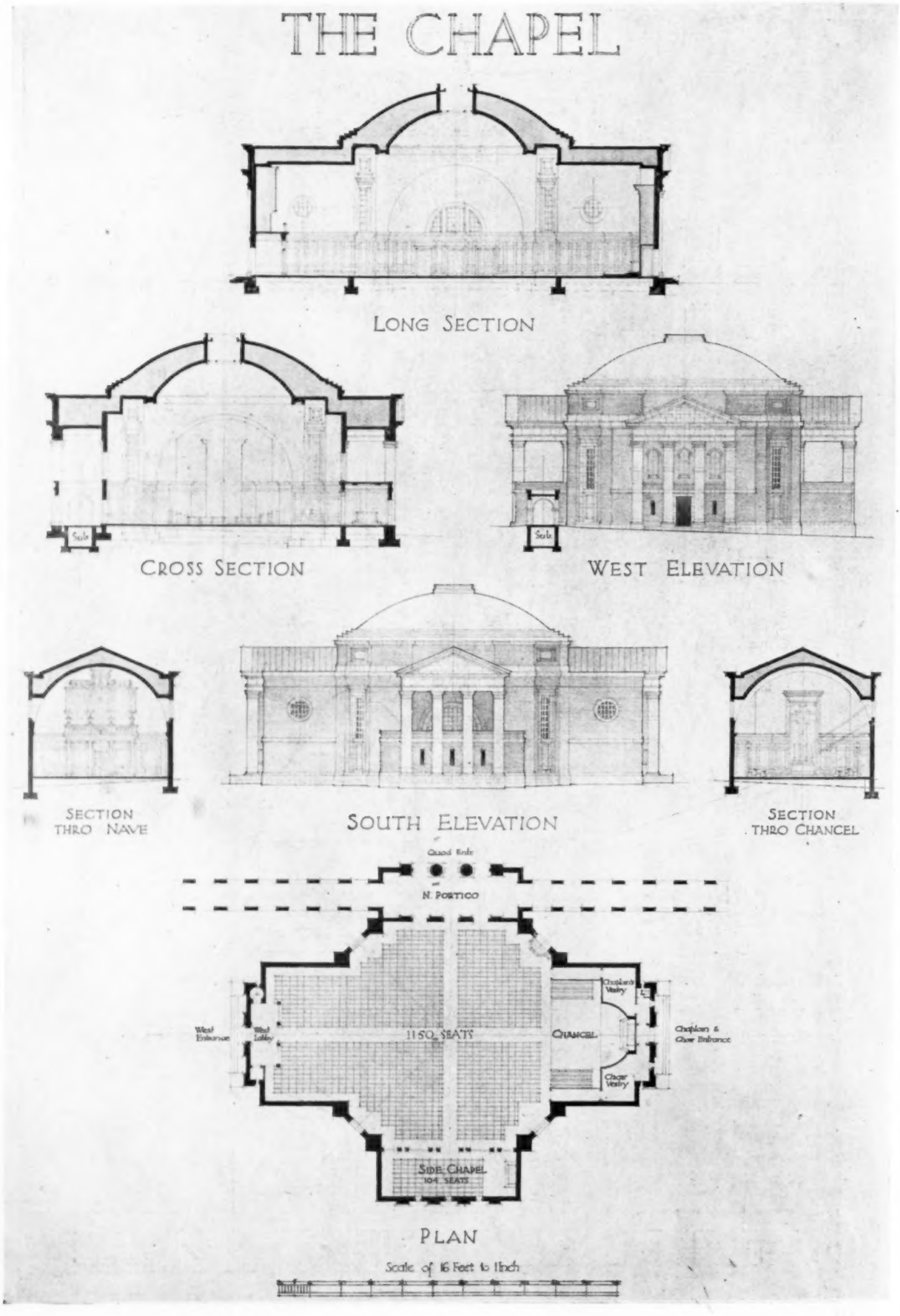
The Cecil Theatre, Hull.

Messrs. Blackmore Sykes & Co., Architects.


THE DINING HALL AND THE KITCHEN
QUAD ELEVATION OF DINING HALL
SECTION AA THRO DINING HALL
CROSS SECTION BB
LONGITUDINAL SECTION CC
SOUTH ELEVATION
PLAN OF DINING HALL & KITCHEN

Design placed Second for the Royal Hospital School at Holbrook, near Ipswich.

By Mr. E. Vincent Harris, F.R.I.B.A.



Design placed Second for the Royal Hospital School at Holbrook, near Ipswich.

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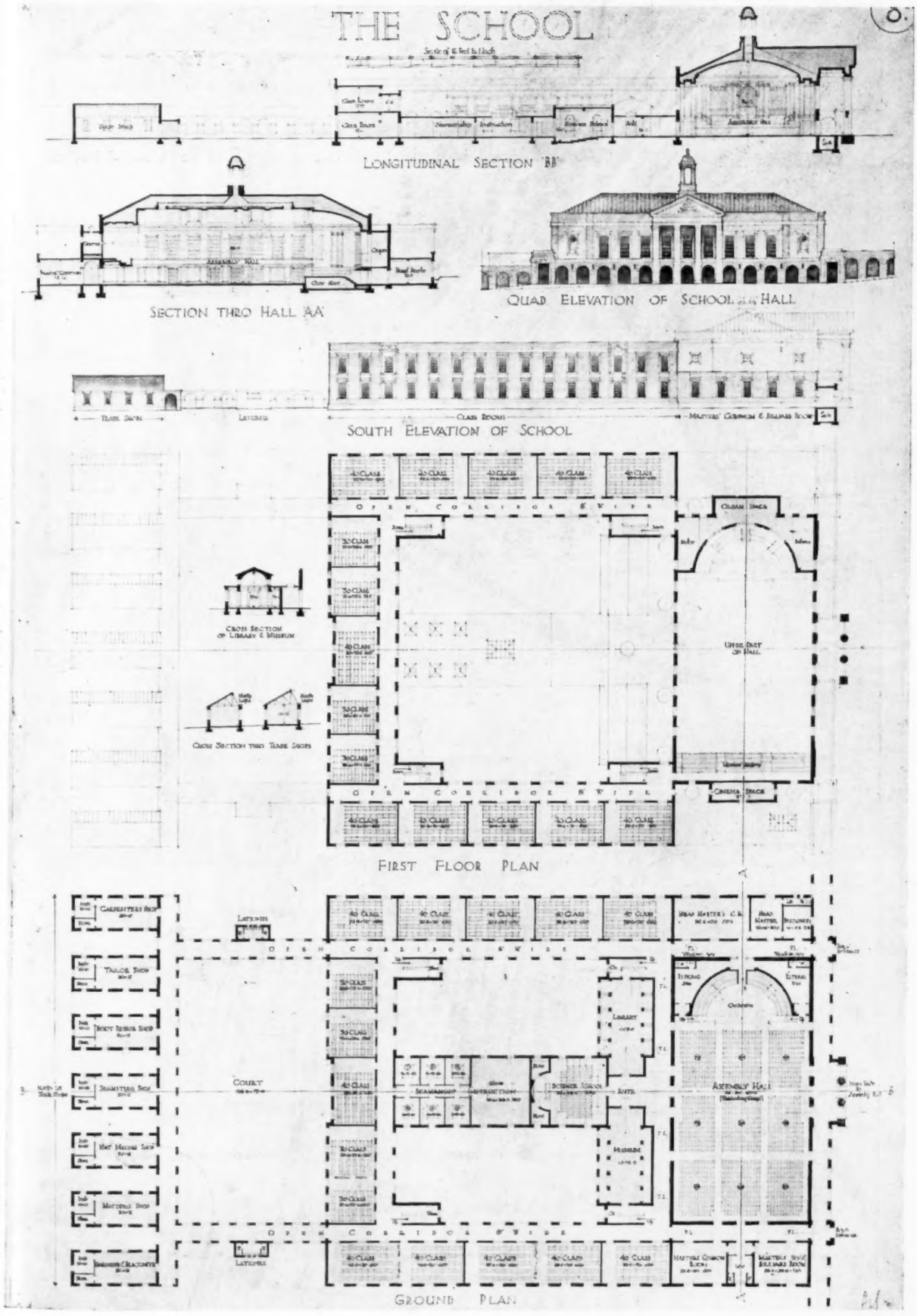
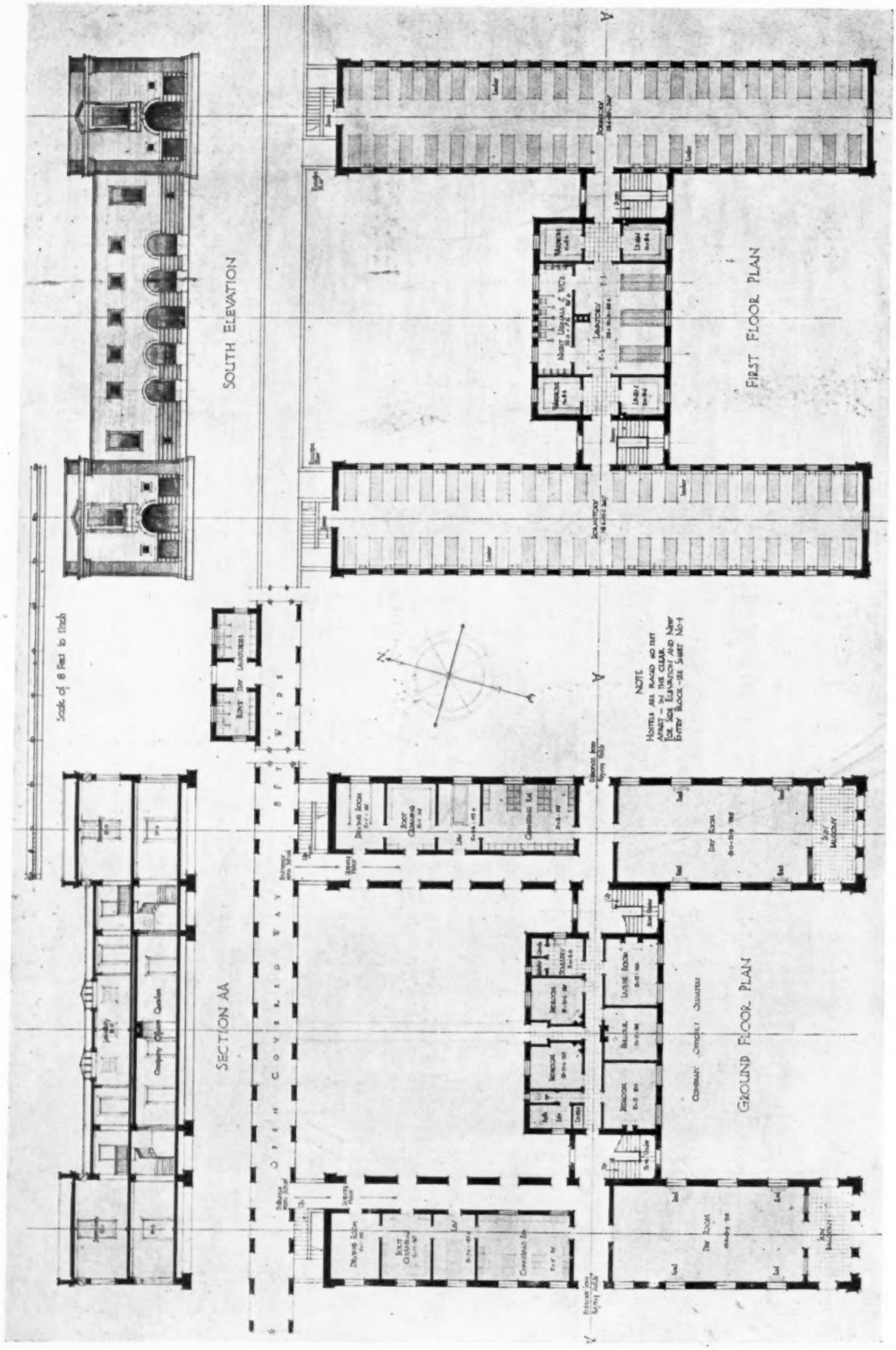


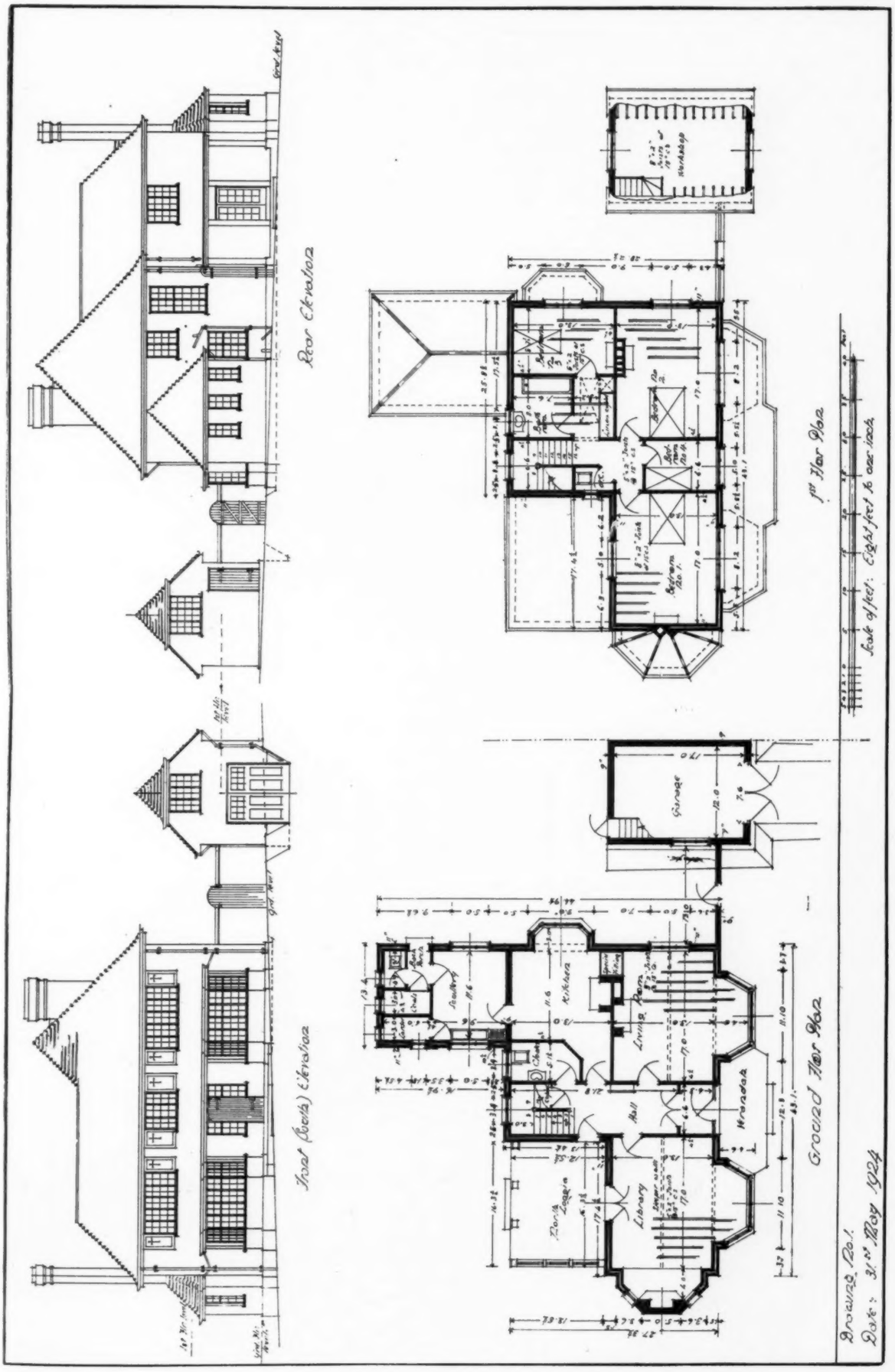
Design placed Second for the Royal Hospital School at Holbrook, near Ipswich.

BY MR. E. VINCENT HARRIS, F.R.I.B.A.

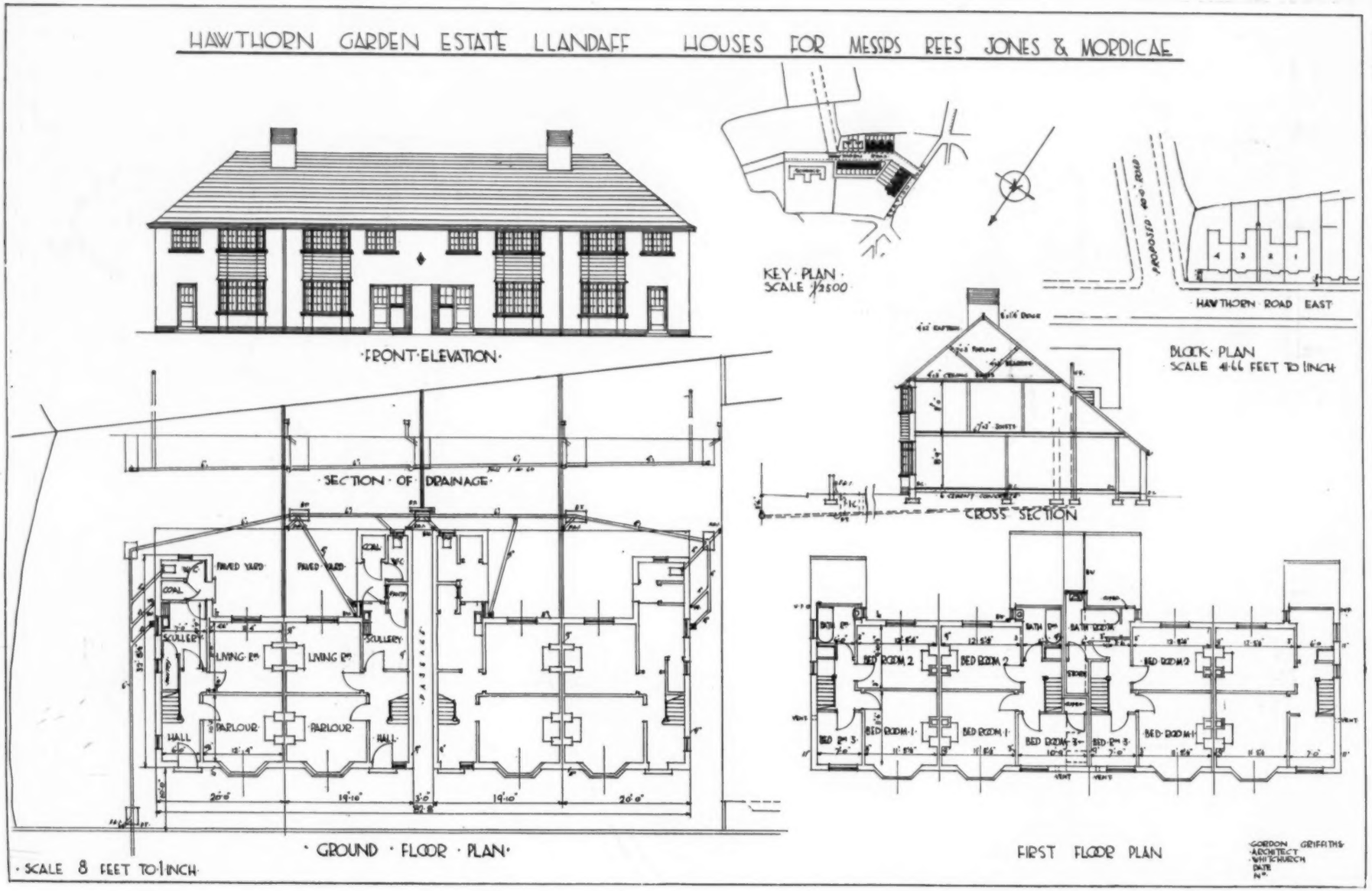


Design placed Second for the Royal Hospital School at Holbrook, near Ipswich: Hostel Plans.

By Mr. E. Vincent Harris, F.R.I.B.A.

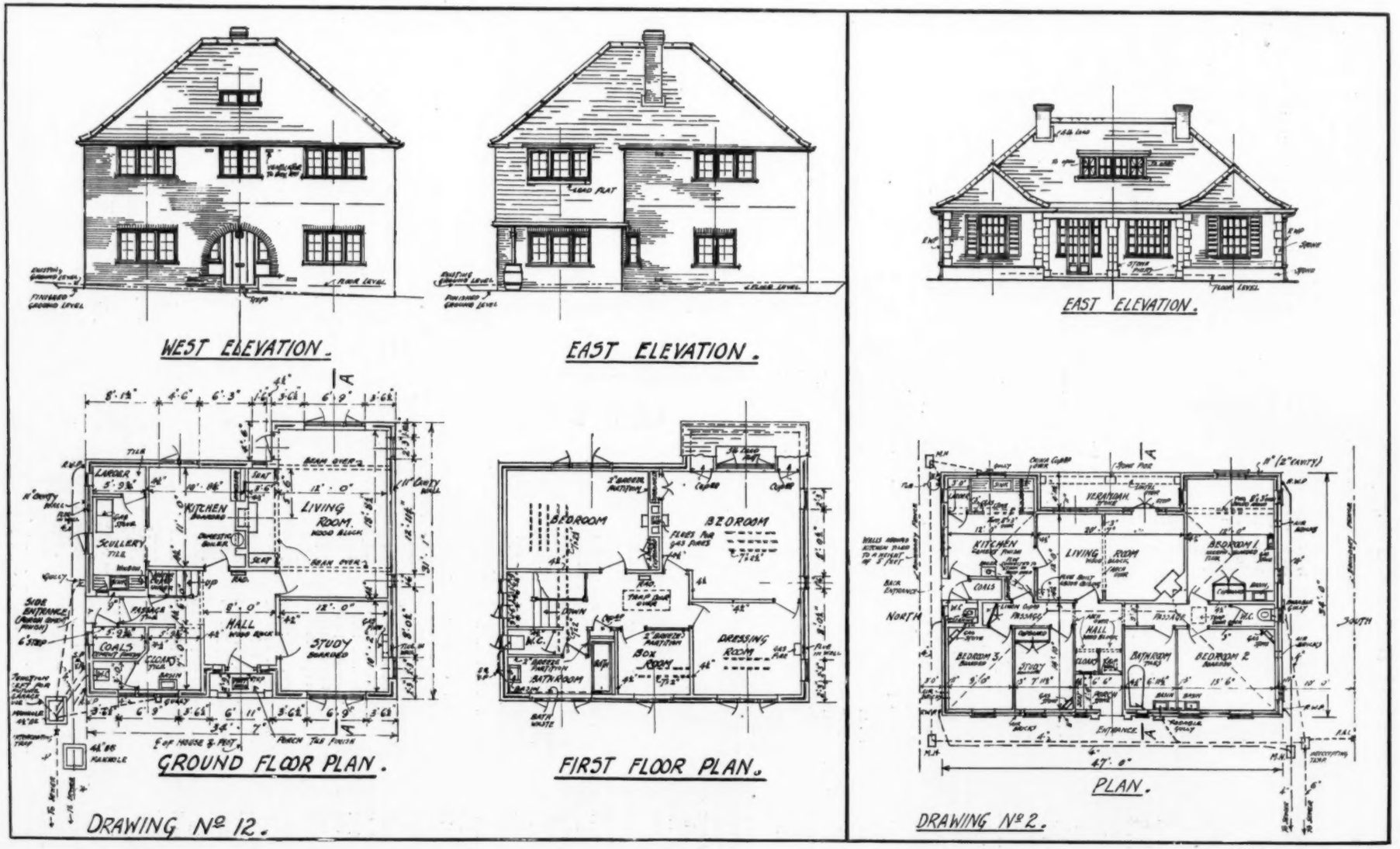


A House at Hove. MESSRS. T. P. BENNETT & SON, Architects.



Block of Four Houses, Hawthorn Garden Estate, Llandaff.

Mr. Gordon Griffiths, Architect.



Designs for a Small House and a Bungalow.

MR. A. J. BUTCHER, A.R.I.B.A., Architect.

SPECIFICATIONS.—XV

By H. V. MILNES EMERSON, A.R.I.B.A.

Special Note.

The following items 176 and 177 were omitted from Specifications VIII, March 5 :—

Item

176. Sprockets.—The feet of common rafters at projecting eaves to have 18 in. by 5 in. splayed sprocket pieces spiked on and to be wrot and cut where exposed.

177. Coal House Roof.—The roof over coal house and w.c. in yard to have 4 in. by 2 in. common rafters, 7 in. by 1½ in. ridge, and 4 in. by 2 in. collars halved on to each pair of rafters (or every second, third, or fourth pair as required).

246. Vestibule Framing.—To be 4½ in. by 3 in. four times moulded or beaded, and twice rebated deal frame and transom, and twice grooved where against wall for linings or plaster. Tongue on to transom both sides 1½ in. by .. in. moulding. Fill in side lights with 2 in. moulded both sides panelled framing with diminished rails and styles, and upper panels prepared for glass with loose heads. Hang folding similar 2 in. doors with rebated and beaded meeting styles on pair 4 in. brass or wrought-iron butts, and fit with mortice lock and furniture p.c. .... and two 18 in. brass bolts.

Fill in fanlights with 2 in. moulded sashes.

247. Lobby Framing.—To have 2 in. moulded both sides framing .... panels high, rebated and grooved together, let into plaster where against walls, staff beaded at angles, and finished with moulded capping.

Hang 2 in. moulded both sides .... panel doors in two leaves, with rounded styles and diminished top rail, the upper panels prepared for glass, with loose beads and brass cups and screws. Hang door in grooved frame on .... spring hinge or hinges p.c. ...., and fit with brass handles p.c. .... each and two .. in. and two .. in. brass tower, barrel, or flush bolts.

The soffit to be 2 in. .... panel moulded and square framing, flush on top, grooved all round with .. in. by .. in. moulded cornice planted on inside.

Note.—Glass panels to doors and partitions liable to vibration should be embedded in washleather and putty. State if framing to vestibule, lobby, &c., is in mahogany or other wood, and polished or otherwise.

248. Architraves.—The door, window, borrowed light openings, and screens, unless otherwise specified or shown on details, where frames or linings are flush with plaster of the brickwork, to have moulded architrave 3 in. by 1 in. of approved pattern where moulded doors are specified, and 2½ in. by ¾ in. twice chamfered where square, to be fixed to splayed grounds for plaster, unless otherwise shown (with or without plinth blocks). Where recessed the frames generally are to have 1in. by 1in. hollow angle mould.

249. Skirtings.—The dining-room, drawing-room, &c., to have 11in. by 1½ in. deal or hardwood moulded and rebated skirtings formed in two, or more, pieces, with wrot splayed grounds and backings, plugged to walls.

The main bedrooms, &c., to have 9 in. by 1 in. deal moulded skirtings on splayed grounds and backings.

The servants' quarters and attics to have 7 in. by 1 in. deal square, or chamfered, skirting on splayed grounds.

250. Dado and Dado Rails.—Provide deal moulded rail . . . in. by . . . in. to . . . room, 3 ft. from floor, fixed to splayed grounds.

Fix to walls of . . . room 1½ in. or 1½ in. deal or hardwood moulded dado, one panel or more high, tongued and grooved at angles and screwed to plugs, or battens, in walls. The dado to have 11 in. by 1½ in. moulded skirting and 4 in. by 1½ in. dado rail with a total height of . . . from floor to top of rail, all as detail.

The walls between battens to be plastered.

Note.—Dados can be formed with V-jointed or beaded matching, or with top and bottom rails and styles fixed on battens, or grounds, or plugs, and with panels formed with plaster.

251. Wall Panelling.—Panel the walls of the . . . rooms to the details supplied with oak, or deal, or whitewood, as specified, with friezes, square columms and pilasters, all tongued and mitred at angles, glued and blocked together, and fixed to walls on dovetailed backings, or,

The walls to . . . room to be panelled from floor to ceiling, in deal or hardwood, with 11 in. by 1½ in. moulded skirting, 1½ in. moulded one panel high dado, 4 in. by 1½ in. moulded dado rail, 1½ in. moulded three-panel high wall panelling, and 5 in. by 1½ in. moulded cornice, all grooved and rebated together, screwed to 2 in. by ¾ in. horizontal fir battens 2 ft. 6 in. apart, plugged to walls, and all in accordance with detailed drawings.

The . . . room to have 3 in. by ¾ in. white wood or hardwood strips, free from knots, fixed to walls with wood plugs to form panelling as shown on detail, with 4 in. top rail and 7 in. skirting, all finished square edge, excepting skirting which is to be stop chamfered.

Form plate rail with 3 in. by 1 in. grooved for plates with 1¾ in. cut brackets under. Fix under plate rail 1½ in. moulded picture rail.

All strips to be slightly chamfered at back for plaster, to be fixed before setting coat is applied, and to be kept perfectly clean for staining.

Note.—This panelling consists of strips, &c., as described, the spaces between the vertical strips being filled with plaster instead of wood panels. The frieze above the plate rail would also be plastered.

252. Ceiling Panelling and Ribs.—The ceiling of . . . room to have 1¼ in., or 1½ in., deal, or hardwood, moulded square panelling screwed to joists. Ceiling joists to be firred or battened as necessary.

Note.—State if any circular work and if with curved mouldings. Also whether prepared for varnish, paint or polish. Also describe cornices. The work should be detailed, and a provisional sum for this and the panelled walls should be provided.

Panel out the plaster ceiling to . . . with 3 in. by 2 in. deal or hardwood, moulded or chamfered ribs screwed through to joists, with all mitres and intersections.

Ceiling of . . . room to have projecting oak beams stop chamfered and of the scantlings shown on the drawings, or,

The underside of floor joists to ceiling of . . . to be moulded on the solid (with cross pieces to form panels) and the space or panels to be filled in with lath and plaster on fillets, or wood panelling, or one of the fibre or compo boards on the market.

253. Deal Cornices.—Cornices to . . . room to be 5 in. by 1½ in. deal, screwed to ceiling joists and brackets.

254. Picture Rails.—Drawing-room, &c., to have 3 in. or 2 in. and remaining rooms except kitchen and offices, or otherwise specified, to have 1½ in. deal moulded picture rail fixed to wood plugs.

255. Plate and Picture Rail.—Dining room and hall to have 3 in. by 1 in. plate rail grooved for plates with 1½ in. moulded picture rail under, as detail, and fixed to double splayed, grooved, or wall plugs.

256. Wood Mantels.—Allow the p.c. sum of . . . for wood mantels to . . . and fix to fireplaces with cramps or wall hooks.

Form the mantel to servant's bedroom with 1 in. deal back, 4 in. by 1½ in. moulded architrave planted on three 2 in. cut brackets above top of architrave, and 1½ in. top or mantel board, with chamfered or moulded edges, and rounded corners. All as detail properly framed and put together (suitable for gas fires).

Put 7 in. by 1½ in. deal mantel over kitchen gas stove opening, with edges slightly bevelled, and secured and fixed with iron dowels. Form surround with 3 in. by 1½ in. moulded architrave (for glazed tiled jambs and opening).

Form the mantel to billiard-room fireplace, as detail, with 10 in. by 3 in. jambs carried from floor to ceiling beam, with 11 in. by 6 in. shaped head over fireplace, 1 in. top, with mould on face, 3 in. uprights, and beam over, with plaster panels between uprights. All in approved figure oak.

Note.—The above is for an old-fashioned brick-recessed fireplace. The wall between mantelshelf and ceiling can be as described, or solid square-framed moulded oak panelling can be used.

The following is for a gas fire in a library, with bookcases on either side, with small cupboards above picture rail over fireplace.

Construct the library bookcases and mantel to detail drawing. Fronts and sides to be 1 in. square framed in narrow panels to lower doors, upper doors in small squares for glass. Corner posts to be 3½ in. by 3½ in. Continue picture rail along top and fill in above same with doors in small squares for glass. Fit in lower cupboards one tier each of 1 in. shelving, and in upper cupboards five tiers in each. From the mantel with bold architrave jambs 6 in. wide and panelled fascia with 1½ in. moulded shelf over on cut brackets and 1 in. panelled overmantel. Hang all doors on 2½ in. brass butts and fit with furniture supplied.

(Cornice to be in wood or fibrous plaster.)

MEETINGS

Friday, *April* 23.

Town-Planning Institute.—Mr. H. Swann on "Differences in the problem of Planning Built-upon and Unbuilt-upon Land." At 6 p.m.

London Society.—Visit to the Building Trades' Exhibition, Olympia.

Saturday, *April* 24.

R.I.B.A. and A.A.—"At Home." At Olympia. 4 p.m.—6 p.m.

Association of Architects, Surveyors, and Technical Assistants.—Supper and Smoking Concert at Olympia.

Monday, April 26.

Architectural Association.—Mr. W. R. Davidge, F.R.I.B.A., on "London Development." At 7 p.m.

Royal Sanitary Institute.—Mr. J. H. Clarke on Demonstration in the Parkes Museum, Building Sites. 6 p.m.

Royal Society of Arts.—Mr. C. Reed Peers on "Ornament in Britain." 8 p.m.

London Society.—Annual Dinner. At the Hotel Victoria, Northumberland-avenue, W.C.2. 7.30 p.m.

The Institution of Structural Engineers.—Discussion, to be opened with a short paper by Mr. Ewart S. Andrews on "Theory *versus* Practice." At Abbey House, S.W.1 6 p.m.

Public Lecture.—Mr. H. A. Cox on "Old London Bridge—Peter Morris and his Water Wheel." At Olympia. 6.30 p.m.

Tuesday, *April* 27.

Association of Architects, Surveyors, and Technical Assistants.—A lecture on (1) "Concrete Construction and Design," (2) "Central Heating of Large Buildings." At Olympia. 7 p.m.

Thursday, *April* 29.

Illuminating Engineering Society.—Discussion on "School Lighting" (Modern Requirements and Recent Progress) will be opened by Dr. James Kerr. At 18, John-street, W.C.2. 7 p.m.

WITH WHAT SHALL WE BUILD?

By T. P. BENNETT, F.R.I.B.A.

The primary function of the architect is to design buildings, but the construction of those buildings is of almost equal importance. In mediæval, and even Victorian, times construction was a matter of tradition and types of buildings were restricted, so that by constant practice the assimilation of ideas current in the neighbourhood, and the examination of existing buildings, the architect became automatically familiar with the means by which his design would be carried into execution. The position of the mediæval designer was therefore essentially different from that which pertains to his successor at the present day. Because of this restriction of constructional method and the restriction of design to traditional forms, former architects were able to produce the whole of the details of their work without the aid of specialists and without the exercise of any real selective knowledge.

To-day this is impossible. Buildings become more complicated year by year, specialists grow in number, new methods, new ideas, new functions, new adjuncts to buildings are evolved almost daily, and whereas powers of design are required from the architect to-day which are at least equal to those of the men of past ages, a knowledge of practical construction and of detail is necessary which would have astonished previous designers. The success of the modern building depends to a very large extent upon the selection of the most suitable and most economical system of construction, and in very many cases decisions of the greatest importance are necessary in dealing with such questions as the advantage of a steel frame over solid masonry or brick walls; and a decision of this sweeping character is necessary in the case of most of the main constructional parts of contemporary work.

A considerable number of types of concrete floors are available, and even when the type of floor has been selected it is found that several firms manufacture similar floors and can be placed in competition on matters of cost. Floor coverings also have unlimited possibilities, and the relative merits of boards, patent composition, rubber, tile, cork and other materials must be considered.

The mechanical equipment of buildings has similarly opened up a vast field of new work of a semi-engineering character with which the architect must be familiar, and while it is obviously impossible for one man to be a specialist in heating, lighting, ventilation, lift machinery, conveyors, and similar items of building equipment, he usually decides upon the system which is to be employed, and he must reach a decision with regard to its probable efficiency before the work is commenced. Even a superficial acquaintance with many of these points demands the acquisition of knowledge from every possible source.

The architect is probably blamed if the system fails, or if it is less economical or less satisfactory than that installed in other contemporary buildings, and the necessity for obtaining reliable first-hand information is one which must be for ever in front of those who are endeavouring to put up buildings which possess the finest features which modern science and modern knowledge can produce. To this end buildings in progress are visited so that first-hand information may be obtained of existing work, and defects investigated which develop six months, one, or two years after the work has been completed.

The amount of information which can be obtained in this way is, however, limited, and it is often necessary to rely upon the representatives of firms who claim to be specialists in a particular subject, and to accept the result of statements made by them, supported by more or less satisfactory tests. Most offices are flooded daily by advertisements giving information in extremely attractive form of the features which have been referred to above. This advertisement information probably finds its way to the advertisement files, and is of considerable value. Its chief drawback is the fact that it is written by those whose object is to set out the virtues of the things they wish to sell, and before a sound judgment can be given upon the merit of the thing advertised it is usually necessary to inspect examples and endeavour to arrive at an independent decision.

The Building Exhibition rightly used is the best opportunity which presents itself to the profession for obtaining comprehensive information of this kind, and from this point of view it is an extremely important item in the development of modern building in this country. It is by far the most comprehensive exhibition we have; it comprises an exhibit from almost every firm of real consequence in the world of building, and by its means the architect and the builder can obtain a complete survey of systems of construction, types of materials, decorative finishes, and of the multitudinous adjuncts to modern building which are available.

Not the least difficult problem is the extraordinary variety of the exhibits. The machinery is of primary importance to the builder, but of secondary importance to the architect. Constructional items like patent floors present characteristics which are not always comparable at first sight. Semi-constructional exhibits constitute an extensive class, and in this case utility must first be judged, but any opinion formed will be substantially modified by the appearance of the article. For example, it is an essential requirement of a satisfactory stove that it should be a good heating unit, but an efficient ugly stove is intolerable, and appearance therefore will be given a high position in the architect's estimation of the value of the stoves displayed. The third item of importance is that of cost, and therefore utility, appearance and cost must be considered together, and more especially considered in connection with particular work for which the stove is required.

Lavatory basins and other sanitary fittings come into the same category. In other instances cost, utility and appearance must be weighed against each other in selecting materials of different kinds to serve a particular purpose, and in recent years this has tended to be more and more necessary. While formerly slates and tiles for pitched roofs and lead and zinc for flat roofs were used in well-defined positions, and were almost the only roofing materials of real consequence, the modern roof may be covered with slates from various quarries, tiles of various makes and colour, concrete tiles and similar roofing of varying thickness and character, asbestos slates, and many other materials.

Work which is primarily of a decorative character similarly demands attention. Paint, varnish, enamel and distemper are manufactured by a large and ever-increasing number of firms, and extraordinary difficulty is experienced in deciding upon the wearing qualities, standard of finish, colour scheme and cost of the various special brands of these materials. Paint and enamel constitute a necessary finish. Those who are concerned with the construction of buildings of the first importance must be able to suggest to their clients decorative materials which give richness of effect and new and attractive schemes of colour and texture. Glazed tiles, polished marble, special types of wall decoration, attractive floor coverings, and other similar expensive but fascinating materials demand attention. The hotel, the public building, the costly town or country house, are only felt to be complete if they contain the best that has been evolved in the way of decoration. At any rate, the architect must know the possibilities of these materials and be able to offer his clients the alternatives which are on the market.

To the architect and to the builder the facts of real moment are those relating to the quality, price, effect, and in certain cases colour and texture of the materials or systems of construction offered for their selection. It is certain that sooner or later the best material will rise to the top. The "best" is always an elastic term and is almost invariably modified by the equally important item of cost. The practical qualities of commodities are affected by what may be described as the "service" of the firm; and a firm which keeps its deliveries to time, maintains an unvaried quality in its goods, and works satisfactorily with other contractors and sub-contractors, will often receive work in spite of its charges, and in some cases even of the type of material which it sells.

The complexity of modern work points more and more to the need for a greater and more elaborate amount of organisation in everything appertaining to buildings. The organisation of the Building Exhibition is beyond all praise, its value incomparable, the comprehensive character of its exhibits something undreamed of, even in 1914, while its astonishing vitality suggests that it is even yet far from its maximum attainments and that it will grow to yet greater proportions in the near future.

VIEWS OF OLD LONDON

The collection of prints and water-colours relating to London, in the possession of the London County Council, amounts to nearly 6,500 items, and has been acquired either by bequest, gift, or purchase. The latest addition to the collection was made by the purchase from the Rev. E. H. Eland, M.A., of a set of seventy-eight water colours, principally illustrating the metropolitan boroughs of Islington and Finsbury, but containing also some views of Hackney and Stoke Newington. The great majority of these water colours are by C. H. Matthews, and were drawn about 1850, but there are a few by Schnebbelie, the Shepherds, and other artists.

It has been the Council's practice for some time to place on view in one of the rooms in the County Hall, Westminster Bridge, S.E.1, a number of its various prints and water colours selected and arranged so as to form a coherent whole. Hitherto the basis of arrangement has been chronological, and exhibitions illustrative of (1) Tudor London; (2) Stuart London; (3) Eighteenth Century London; and (4) Early Nineteenth Century London have been given. Each exhibition lasts about three months. It has now been decided to vary the basis of arrangement, and for the next five or six exhibitions the keynote will be topography, not chronology. The first of the series, illustrating the topography and history of Islington and Finsbury is now on view. Over 150 items are shown, including more than half the Eland purchase. The remainder consists of prints and water colours (some very beautiful) from the other portions of the Council's collection (the Harben and Sturge Bequests, the Hooke Gift, the Gardner Purchase, &c.).

The room containing the drawings is included in the itinerary for visitors to the County Hall. The general public are admitted to view certain portions of the hall (entrance in Belvedere-road) during the undermentioned hours:—Saturdays, from 10.30 a.m. to 12 noon, and from 1.30 p.m. to 3.30 p.m. Easter Monday, Whit Monday, and August Bank Holiday, from 10.30 a.m. to 12 noon, and from 1.30 p.m. to 4.30 p.m.; but arrangements can generally be made for persons interested to view the exhibition on any day during office hours. Application for this purpose should be made at Room 114 (the Members' Library). In cases in which parties of several persons desire to see the drawings, application should be made by letter.

EXPERIMENTS ON FUEL CONSUMPTION IN WORKING-CLASS TENEMENTS

In 1921 Mr. Arthur H. Barker, M.Inst.C.E., B.Sc., Wh. Sc., made an agreement with the housing committee of a public authority near London to take control of two of the tenements on one of their estates with a view to making practical experiments on fuel economy in domestic equipment. The following is the substance of the report on the results of the experiments, which may prove interesting and useful to other housing committees. The tenements were both let to separate tenants, each under agreement with the author to carry out his instructions as regards the use of fuel in return for a certain consideration in rent and cost of fuel used.

The object of the investigation was to equip each of the tenements successively in several different ways in accordance with experience obtained in the laboratory in order to determine the most practical and economical equipment in use for an artisan family, and to make regular comparisons of the amount of fuel (of various kinds) actually used during a long period.

There is an obvious difficulty (says Mr. Barker in his report) in forming general conclusions from experiments of this kind which shall be applicable to all cases. Thus it would serve no useful purpose to compare the relative amounts of fuel used by different tenants under different conditions even in the same tenement. Different people have not only different conditions to fulfil but also widely different ideas both of the amount of heat necessary to use for any particular purpose and of the desirable methods and amount of care in using it. A comparison of the respective amounts of fuel used by two different persons using the same appliances in the same conditions gives only a very interesting comparison between the two individuals concerned; while a comparison of the amounts used by the same individual in the same house and circumstances but with different equipments gives a valuable clue to the relative economics of the respective equipments under those conditions.

Very complete tests have been already made by the author in the laboratory of the efficiencies of individual pieces of apparatus.* The idea of the experiments now to be described was to make the last-mentioned comparison by keeping the same person in charge of the same establishment with completely different equipments and to observe the fuel actually used when the building is equipped in different ways in successive years. This eliminates the element of personal differences between different users. It is not, however, possible even so to ensure that the same relative results would necessarily be obtained in a different household, nor that the same users' idea will not alter in course of time, nor that the conditions will be the same in two successive years. Thus, one year may, on the whole, be colder than another. This will make an important difference in the amount of fuel used for heating; neither is it certain that the most economical equipment for one class of user would be so for another totally different class. Sufficient definite information, however, can be gathered from a careful consideration of one series of such experiments to give valuable information applicable to any class of user. Observations have been made of the fuel consumption in the same household under control of the same person with the same equipment in two different years separated by an interval of two years and practically the same results for the two periods have been recorded. The following records, therefore, can be taken for what they are, namely, the heat actually required by the person concerned in the circumstances described. The deductions from them are given separately.

The following is a general description of the experiments made. A full and detailed report is in preparation for the Department of Scientific and Industrial Research. The tests here described cover in all a period of about four years, and have been made in conditions as accurate as could be devised having regard to the practical working of the various apparatus. It was desired in the first place to obtain from these observations an estimate of the basic amount of heat required by the respective tenants for the various services in the different buildings. For that purpose, gas heating only was used for all services for the whole of two years or more, using apparatus which had previously been subjected to rigorous and prolonged tests in the laboratory. For each separate purpose a separate gas meter was installed and separately connected to the particular service—cooking, heating, hot-water supply, and lighting. Instructions were given that readings of each of the gas meters should be taken every evening. Each of the tenants was advised not to consider essentially parsimony in use, but to use gas as required for convenience and comfort, taking great care to avoid extravagance or waste. Arrangements were accordingly made that the tenants themselves paid for only half the gas used. If it had been agreed for the investigator to pay for the whole of it there might have been a tendency to waste. At the same time it was ensured that the tenants had sufficient funds at their disposal to enable them without financial embarrassment to use as much heat as was really required for the various purposes for reasonable comfort.

Both the tenants were persons whose capabilities and carefulness were proved, and who earned sufficient to ensure that they would live comfortably. In these circumstances it may be concluded that the observations represent good average requirements for the two classes of people represented, for one person living alone and when little or no waste takes place. In comparing these two results it will be well to note the difference in the circumstances of the two tenants concerned. In the case of No. 1 the tenant was an educated and trained woman engaged in the city during the day in a professional occupation. No. 2 was a woman of the superior working class engaged in manual work (dressmaking) on her own account on the premises the whole day. No. 2 was much more skilled in the domestic arts than No. 1. She was also by nature more careful, competent and economical—qualifications which are reflected in the results obtained. Both premises were very well kept and both tenants lived in considerable comfort, though without extravagance.

Heating.—No. 1 building was only heated during the periods in which the tenant was at home. These periods were usually (1) in the early morning until 8 o'clock, at which time the tenant left for business, and (2) after 7 o'clock in the evening up to the time she retired, usually about 11.30 p.m. On the occasions when she had visitors heating was required throughout the day. No. 2 was heated when required throughout the whole day, normally only in the rooms actually in use, which were sometimes one or often two. Her hours were irregular according to the demands of her business (high-class dressmaking), which frequently required all night work.

Cooking.—Required in No. 1 was normally for breakfast and for the evening meal only, while for No. 2 a simpler diet, but every meal was required, including lunch (not always hot) and tea. Both tenants had frequent visitors for whom cooking was required.

The Hot-Water Supply varied similarly. The records give accurate information of the habits of the inmates, from which it is apparent that No. 1 took a hot bath every day, while No. 2 frequently had cold baths, but did not take so many hot baths. Similar differences applied to their various visitors. Thus there are differences in domestic conditions which would prevent No. 1 and No. 2 being effectively compared. What can definitely be compared, however, is the fuel consumed in No. 1 tenement and also in No. 2 in successive years. Careful comparisons have also been made of temperatures inside and outside the building three times a day throughout the entire period. It is not easy to make an effective comparison between different years otherwise than by a graph.

The experiments having been carried out with gas only for two different years and the results for the two separate years having been very nearly identical these figures may be laid down with some confidence as the actual requirements of the people concerned. The appliances used in these two tenements had been previously tested in the laboratory before they were installed in the building itself. For each service the total heat in the quantity of gas used multiplied by the proved percentage efficiency of the appliances gives approximately the "basic" amount of heat actually required by the tenant irrespective of the apparatus actually used. Thus, if the stoves had been of less efficiency than they were the total figures would have been the same. In these circumstances the following may be given as the net basic requirements of each class of person.

Net basic heat requirements for two tenants living alone.

	Tenement No. 1.	Tenement No. 2.
Net B.T.U. for heating	5,100,000	4,650,000
General Hot-water supply	2,600,000	2,170,000
For cooking and water boiling	3,300,000	1,630,000
	11,000,000	8,450,000

Diagrams No. 1 and 2 give the total of the gas (and the cost) at the standard rate of 10d. per therm in the two cases.

Scheme II.—When this had been determined, the apparatus in each building was rearranged as follows: All the gas fires were removed, and it was decided to use exclusively the apparatus originally installed in the building by the Housing Committee, consisting of a compound range in the sitting-room, with auxiliary cooking by gas range in the kitchen and open fires, when necessary, in the bedrooms. A serious difficulty was here experienced. The range supplied was found by both the tenants to be very unsatisfactory in use. It was difficult to get the water heated or the ovens sufficiently hot for cooking purpose, and not at all without the waste of much time and an excessive amount of fuel. The location of the range in the sitting-room was also a serious inconvenience to both. The difficulty was all the greater by contrast because, of all methods, gas fuel for supplying heat is by far the most convenient. These tenants having by this time become accustomed to the general use of gas for all purposes, complained when they were asked to use principally solid fuel, especially with an unsatisfactory appliance.

Both these tenants were busy women and could not readily spare the time required to attend to the ranges. No. 1 complained constantly that in the morning she frequently had to go without a properly cooked breakfast, in a room practically cold, although she endeavoured to light the fire and to deal with it as she had been instructed to do. When she arrived home, tired after a busy day in the city, she had to spend an hour before she could cook her meal and experience any sort of comfort in her flat. No. 2 also complained of the dirt and slow working of this range and the difficulty of management, but as she had not to leave the house and had more time to attend to the range and more skill in the general use of such appliances, the difficulties, though great, were not so acute as in the case of No. 1. These ranges had, therefore, to be supplemented in practice by the use of gas for cooking, and on certain occasions for the supply of hot water. The diagrams represent the cost of the total fuel of both kinds during part of a year by using a combination of the compound range with a certain amount of gas cooking.

The experiment was not carried out throughout the whole of the year because of the difficulties alluded to. The results of this year's test were therefore somewhat unsatisfactory. During the second year tenant No. 1 had to

* See "Tests of Ranges and Cooking Appliances," published by H.M. Stationery Office, Kingsway.

revert to the exclusive use of gas for all purposes except when a room had to be warmed throughout a whole day, when the range was used for an open fire. It was found impossible to make any other effective rearrangements of the plant in tenement No. 1 except by changing the cooking range.

Third Combination.—In tenement No. 2 in the meanwhile an outfit of "Cookanheat" appliances was installed, consisting of a combination of a small sectional hot-water boiler, with an oven range with radiators in each room and a secondary hot-water supply cylinder. The compound range was removed and the recess tiled out. In this recess was fixed a closed slow-combustion stove, of which tests had been made in the laboratory, and which gave good results, and a similar one of smaller size in the workroom. Instructions were given that these stoves were not to be used during this year, and that the work of the entire house was to be done by the "Cookanheat" apparatus, with radiators throughout the house, hot-water supply being obtained from the same appliance. The radiators were to be shut off when they were not required, and, generally, reasonable economy was to be exercised, just as had been done in the case of gas. The apparatus was in exclusive use for a whole year, with very occasional use of the gas range, especially for summer cooking. It was not possible in this case to separate the fuel used for hot water and for heating, as had been done in the case of gas.

Fourth Combination.—The house was heated solely with the slow-combustion stoves, which consisted of a closed independent stove having wide removable transparent doors on the front, so that it could at will be used as an open fire. Cooking was done entirely by gas, which was also used for the hot-water supply system. The latter was heated only as required for baths, hot water for other purposes being supplied by kettle on the hot plate of the cooker or in a special small water heater of economical type designed by the author.

The net cost of the fuel used is calculated on the following standard basis :—

Solid fuel, 40s. per ton, or 4.65 lbs. for 1d.= 56,000 B.T.U. gross.

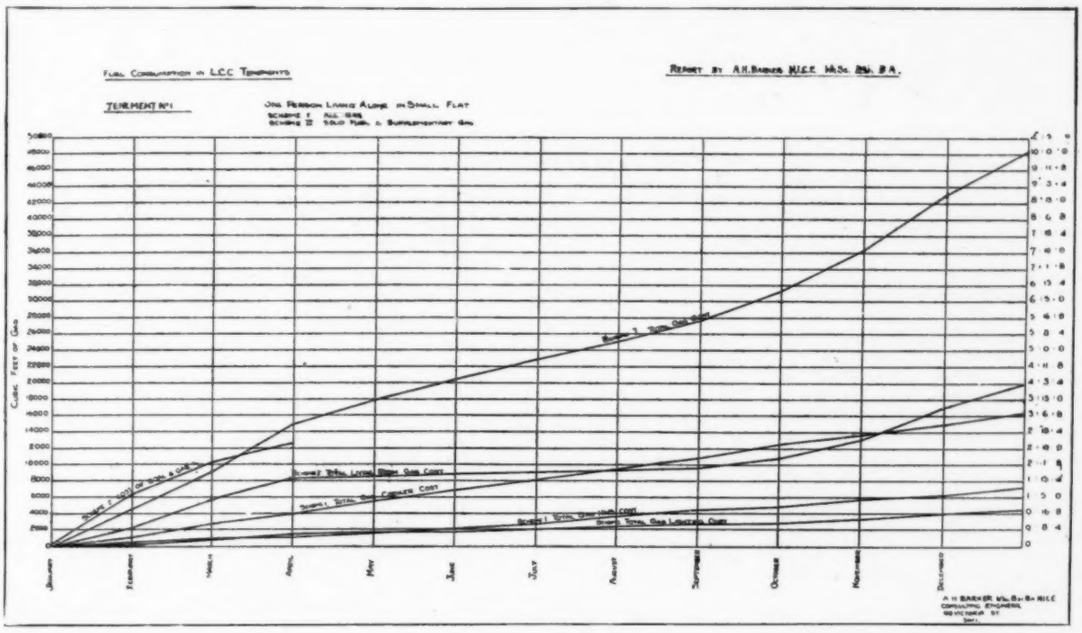
Gas, 10d. per therm, or 21.5 cubic feet = 1d. = 10,000 B.T.U.

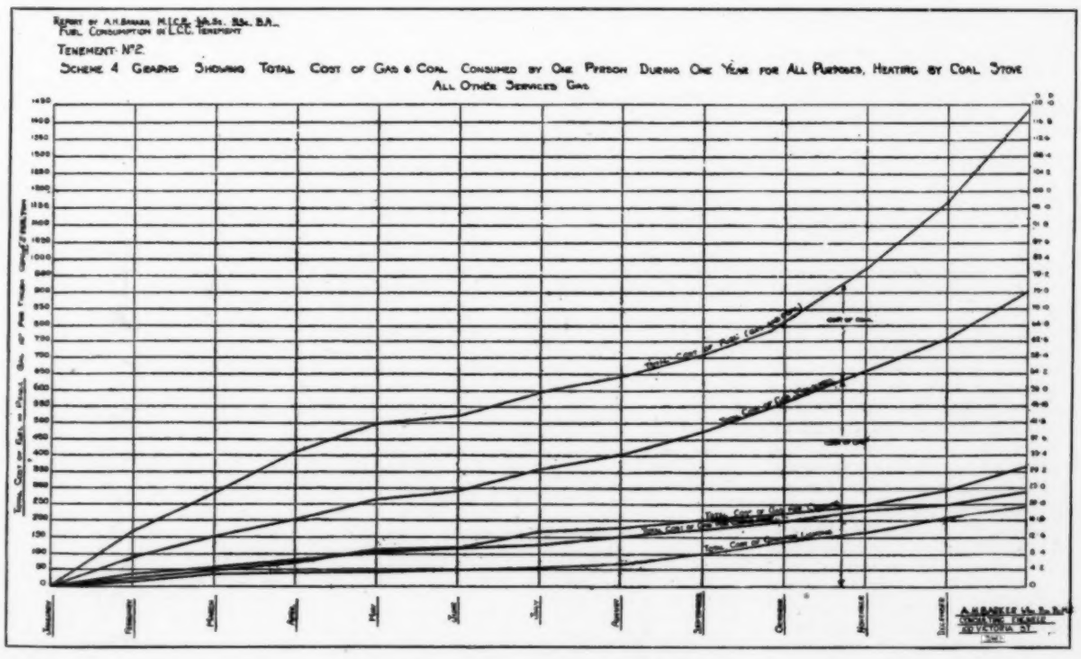
The gas was uniformly about 465 B.T.U. per cubic foot gross.

The various amounts of consumption and cost are given on the diagrams accompanying this report. It will be obvious that a change in the basis cost of the fuel will produce a proportionate change in the total cost. No further observations in regard to the cost, therefore, are called for.

[The author's observations on the four classes of equipment used as described, based solely on experience and close observation of their working, will be given in our next issue.]

(*To be continued.*)





Diagrams Illustrating Fuel Consumption in L.C.C. Tenements.

STEELWORK SPECIFICATIONS

In the course of a paper on this subject given before a recent meeting of the Institution of Structural Engineers, Mr. S. Bylander said it was desirable in the national interest to encourage the scientific treatment of design, manufacture and erection of steelwork to assure increased efficiency and reduced final cost. As a means to the above ends it would be necessary to collect, examine and classify available data and publications and to ascertain the strength of structural members by tests on full-size specimens.

There was no doubt that thoroughly scientific methods in design and good workmanship and good materials were necessary factors in producing efficient and economic results in steelwork construction. The specification should be drawn up on national or broad lines rather than on individual or narrow lines. It should be so framed as to encourage economic and safe design. Reliable material put together in a good and workmanlike manner permitted economy in design and good work. No doubt safety was of first importance and economy came next, but, by adopting accuracy in design and construction, safety or security as well as economy could be obtained provided that loads and stresses were adopted which would give sufficient margin of safety and yet assure a low cost. It was desirable to draw up a specification in such general terms as would enable an able designer to produce a steelwork design which would be safe as well as cheap. Loads and stresses and requirements for material and workmanship must be read together. Such requirements were interdependent and one part could not be changed without affecting the other. The principle, he thought, was well accepted that security was not necessarily ensured by generally increasing the weights for the members of a structure and using average low stresses with uncertain materials and work. Safety depended on the weakest link and not on the average link.

Uniformity in by-laws and regulations was desirable and should as far as possible coincide with good engineering practice adopted universally. It was therefore hoped that such of his proposals as came within that category might be found useful when Regulations or Building Acts are next under revision. He suggested the following alternative method of submitting calculations and carrying out work under the Regulations :—

That the Building Authorities may permit a responsible competent structural Engineer to deviate from the strict requirements of the Regulations if such Engineer is responsible for the design as well as the supervision of the work, provided that a copy of the working specification is submitted and approved by the Authorities before starting work and that the Engineer has full authority by the Employer to design and control the selection of the materials and the carrying out of the work and that the Engineer supplies to the Authorities at the completion of the work a certificate signed by him that the work has been carried out in accordance with the approved specification submitted with the application at the commencement of the work. In such case it is not necessary for the District Surveyor to check every part of the drawings and calculations and further higher stresses or a different method of calculation may be adopted as given in the working specification.

Standards for steelwork design and construction were difficult to obtain. There were different schools of opinion. One school of engineers believed that the designer should be entirely unhampered by regulations or standards and the greatest efficiency could best be obtained by entrusting the work to a qualified engineer who would use his judgment and experience in deciding the various problems involving loads and stresses and quality of material and workmanship. Another school maintained that uniformity in practice was the best means of securing efficiency and cheapness of production. Regulations and standards helped to create a satisfactory practice, and if the regulations were reasonably applied and the standards periodically revised it should not be detrimental to the interest of progress and economy. Standardisation and co-ordination in industry were now generally accepted as the best means of obtaining the desired result. The individual and competent engineer must necessarily decide in each important case what should be done; he must take account of the uniformity and reliability of material available and the assistance he could have and the quality of the workmanship he could obtain within reasonable cost. While regulations and by-laws of local authorities must be simple and definite they should allow for sufficient flexibility to permit of good and economic design. They should not be enforced where they did not apply. Building authorities should have power to waive or modify any requirement which might be inappropriate or inapplicable having regard to any special condition or unusual circumstance.

Referring to the specification which he had prepared and which accompanied his paper, the speaker said it was necessarily incomplete and not yet reduced to a concise form, but he hoped it might contain some proposals which would lend to a thorough discussion. When amended as the result of discussion it was hoped that the specification would be helpful to designers as well as contractors.

He believed that the straight line formula denoted by the letter " B " in the table for pillar stresses might be sufficiently accurate for use for ordinary buildings. It must not be forgotten that exact and complete calculations of pillars demanded a great deal of the designer's time. Many hundreds of individual calculations for pillars might be required for a single building. Pillars should be figured for hinged ends and not fixed ends, as in the practical pillar fixity could seldom be obtained and could not be relied upon. However, if the axis of a pillar was fixed in direction, the constraining beam and particularly the connection must also be calculated for such fixity. It might well happen that the pillar firmly attached to the strong beam would in fact be stressed to a greater degree than a pillar held only in position, but not direction, on account of the bending produced by wind and other horizontal forces and the rigidity of the frame required to assure stability. The maximum direct stress of 5 tons was suggested, and not 8 tons, however stout the pillar might be because allowance must be made for stresses which could not easily be ascertained by calculations. The maximum combined stress allowed in a pillar was 6 tons, and the maximum bending stress for a riveted girder flange was 6.8 tons. Therefore it might be said that .8 tons stress would cover stresses which were not calculated but nevertheless might exist.

For riveted work it must be borne in mind that in ordinary work it could not be assumed that every rivet filled the hole, and the section was weakened to some extent even for compression. It might be assumed that the working stress on the gross section of a riveted section should be 1.2 tons per sq. in. less than the standard 8 tons per sq. in. This suggestion was based on the assumption that the net area was at least 80 per cent. of the gross area. The moment of inertia and section modulus should be calculated on the net section, and not on the gross section of a riveted member.

He felt that it would be most useful for the structural engineer to have at his disposal some tests of full-size members, particularly pillars. The effect of the variation of rivet pitch in a riveted member was not sufficiently known, particularly the question of distance between rivet-rows at right angles to the lines of stress, and he hoped that in the near future such tests would be made.

DECORATIVE MATERIALS

The interior of a building can attain grandeur and dignity through its vastness and proportion without the aid of extraneous decorative materials. The beauty of the interior of Westminster Abbey is an example of what can be done with stone unadorned by decorative colouring. Not far removed from Westminster Abbey is Westminster Cathedral, a building constructed practically of brick. The interior, with its brickwork for the most part still unadorned, attains through its vastness and proportion a charm that cannot be described.

In buildings that are not designed upon the scale of our cathedrals and churches, decoration in one form or another has to be employed to make the interior pleasing to the eye and a source of satisfaction to those who occupy the building. Of all decorative materials, the various and beautifully figured woods stand supreme. The importance of internal decoration cannot be over-estimated, and the well-conceived panelled interior, with mouldings correctly designed, gratifies a desire for warmth and comfort and at the same time satisfies an instinctive appreciation of all that is most beautiful. Of all woods the oak is most sought after. With its beautiful figuring, richness in colour, strength, and its durability, it has served for centuries in the construction and decorations of our buildings. But the use of one kind of timber would become monotonous, and there are woods from other countries that are equally beautiful in their way. The mahogany, rosewood and walnut are all excellent, and many new varieties of decorative woods are now being used through the introduction of veneering upon a base so constructed that it will not shrink or split. Some idea of what can be done in this class of decoration can be seen in the woodwork to the windows of the new shops in Regent-street.

Plaster also plays an important part in the decoration of our buildings. Used as a covering for walls and ceilings in the ordinary way, it can in the hands of the skilled craftsman be moulded into the most beautiful forms and designs. Carried out in the delicate design of the Adam brothers or in the heavier design of the Georgian period it is always effective. Plaster in its ornamental form covers a multitude of sins or ugly construction. It can be made into panels and inserted into woodwork to relieve undue heaviness or made to resemble stone, such as the Hypostyle Hall in the Adelphi Hotel, Liverpool. In the form of stick and rag or fibrous plaster it can be moulded and prepared at the works, transported to the building and nailed, screwed or otherwise fixed into position, giving an appearance of solidity when actually it is a thin covering to a void.

One may go into some of our leading stores in London and admire the richly decorated " plaster " ceiling and no doubt be surprised to find it is not constructed with plaster but made of stamped steel. It cannot be distinguished from plaster, and has the added advantage, especially in theatres, cinemas and public places, of being fireresisting and not cracking with any movement of timbers, etc.

Plaster walls and ceilings, plain or decorated (and joinery) are not attractive in their natural state. They must be decorated in some way, and this is done by the application of colour, in the form of paints and enamels, stains, varnishes, etc. At one time the painters mixed their own colours, but the

modern way supplies through the manufacturers the paint or enamel ready mixed to the tint required.

Colour plays an important part in the decoration of a room and also in the health and temperament of the occupants. White paints with white lead base will in time turn to creamy tint, and for that reason are not so dependable as the paint with a zinc base. New woodwork should have not less than four coats of paint including the priming, and plaster walls should not only be thoroughly dry but should have an undercoating that will prevent any chemical action setting up between the plaster and paint. Enamels are an evolution of the varnish paint employed in the earlier days. Made of the best gums and zinc white basis and tinted if required, they can be obtained to give either a light gloss or a matt surface. They are equally serviceable to exterior and interior work and last much longer than the ordinary oil paint.

Wall paper as a decoration with panelled and artistic papers is coming into favour again. A paper border is an adjunct to a painted wall, and a combination of paint and paper for the decoration of walls can be made very effective.

THE BUILDING TRADES EXHIBITION

[Below we give further notices of the more interesting stands at the Building Trades Exhibition at Olympia, supplementing those given in our last issue.]

Allardstown & Co. (51, Westow-street, Upper Norwood, S.E.19). **Stand No. 77, Row D.**

This firm exhibits a variety of "Spook" radio-active signs which may be used for such purposes as house numbers, letters and numerals, business and professional signs, garages and service stations, and so forth. The wording or lettering is hand-painted in a luminous pigment on a black metal background and then covered with glass. By day the white lettering shows up well against the black, while at night the letters or figures give out a luminous glow which is visible at a considerable distance. The darker it gets the brighter the signs become. There are no maintenance costs with these fixtures, which are guaranteed by the company to last for at least four years. The principle is also adapted in the form of glass covers to electric light switches, whose position is thus plainly visible in the dark. There should be a considerable demand for these useful fixtures, the prices of which are very reasonable.

Allen-Liversedge, Ltd. (Victoria Station House, Victoria-street, S.W.). **Stand 289, Row T.**

Brazing, Soldering, &c.—On this stand a demonstration is given of a small acetylene-hydrogen plant, in which easy portability and convenience in handling are strong features. The firm are specialists in acetylene bottles, which have gadgets attached for numerous purposes. Apparatus shown at this Exhibition for the first time is a "breakdown" equipment which combines in itself provision for lighting and metal cutting. It is a handy arrangement to rush along to an urgent welding or cutting job which must be done on the spot, and at night, or in a position where good light is not otherwise obtainable. Known to most builders also are the paint-burning air-acetylene plants, and for road contractors there are the excellent A-L flare lamps. Nothing where the use of acetylene is involved commercially comes amiss to this firm, as one may judge from the varied display of brazing, soldering, cable-jointing, and other apparatus on the stand.

The Anti-Leak Tap Co., Ltd. (30, New-road, Brighton). **Stand No. 26a, Row C.**

A New Form of Tap.—Sections of this new anti-leak tap are on view, and the exact working of it can be seen. The plunger or sliding valve is fitted in the body of tap so as to give such an accurate bearing that only the slightest pressure is necessary effectually to close the valve, and at the same time if severe force is used—as is often the case—it does not harm the leather washer. The tap complies with all waterworks regulations, being of the screw-down loose valve type, and is equally suitable for high or low pressures, hot or cold water, the only difference being that a fibre seating washer must be used for hot water in place of the leather seating washer. With this tap the leaking nuisance seems to be finally eliminated.

The Art Metal Equipment Co., Ltd., and Roneo, Ltd. (186, Shaftesbury-avenue, W.C.). **Stand No. 104, Row F.**

Metal Furniture, &c.—These two firms have recently amalgamated and they occupy accordingly the same stand. Nevertheless, the exhibits are quite distinct, though they are complementary to each other, as it were. Both deal with office and business building equipment, but while the Art Metal half devotes its attention more to the structural side of the office, Roneo attends to the business furniture. The Art Metal Co.'s steel shutters are now well known and one of them is shown. It may be mentioned that for external work and in some other cases remote electrical control is being fitted to these shutters. An exhibit worthy of note is a fire-proof door, painted inside and grained out, such as is being supplied to Hambros Bank. In addition there are exhibited all-steel counters for banks and similar buildings where strength and fireproofness are desiderata. On the Roneo side the filing of documents occupies an important place, and for this work there are steel cabinets of many sizes, including a useful type for the reception of architects' or builders' plans. An all-steel roll-top desk should attract attention, as also steel office tables. The "Numeralpha" system of filing, embodying the latest improvement, which permits names to be kept in strict alphabetical order, is of interest to all who have a large amount of correspondence.

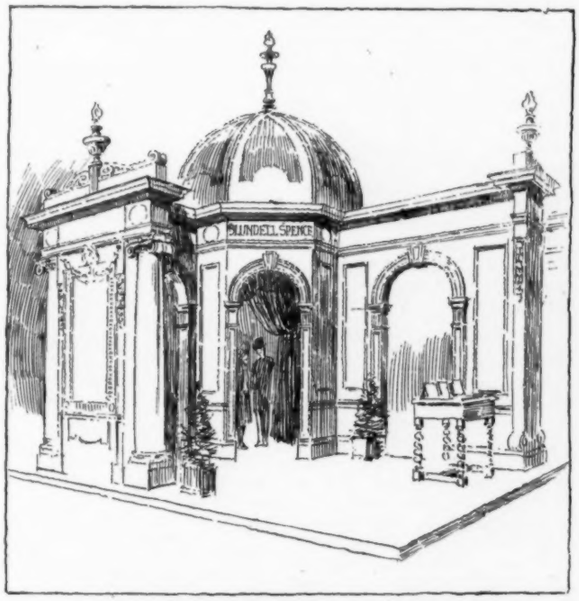
The beauty of bronze has now been obtained in stoved enamel so that it harmonises with penny bronze enrichments. A counter is being shown by this firm which should appeal to all architects desirous of obtaining a really fire-proof building by the elimination of all inflammable material. Now that steel fittings, doors, partitions, counters, &c., are being made so as to harmonise with any architectural treatment, with mouldings sharp and well designed, and finished in a pleasing manner, steel for decorative purposes is certain to become more popular.

Athena Composition Flooring Co. (2, Aspen-place, W.). **Stand 131, Row G.**

Composition Flooring.—On this stand one treads upon "Athena" flooring, which is a jointless composition flooring looking like linoleum, but providing a softer tread, and with the merit of being damp-resisting, no slippery, and proof against vermin and dry-rot. We hear that already, at the time of writing, the firm has booked some good orders, especially in connection with buyers interested in housing schemes. The flooring is laid in a plastic state and hardens very rapidly after laying. It can be used on any solid foundation—concrete, wood, stone, brick, or metal. The standard colours are red, brown, buff, and natural, but grey, green, or black are also available. On the stand also are examples of parquet flooring, another direction in which the "Athena" firm specialises.

F. T. Batsford, Ltd. (94, High Holborn, W.C.). **Stand No. 84, Row E.**

Books.—The selection of technical works displayed on this stand is very large and varied. In addition to the text-book type of work, however, there are many which will afford pleasure also to the more serious among the general public. Among new works of the latter kind one may note Richardson's "English Inns," a "History of Wall-paper," "Smaller Houses of the Later Renaissance," &c.



Stand of Messrs. Blundell, Spence & Co., Ltd.

The Bestplug Co. (56, Warren-street, W.). **Stand 236, Row O.**

Plugs.—The days of the old-fashioned hand-cut or roughly made plug for wall or other fixings were over long ago, and even the amateur in these days would not think of making large holes in plaster and brickwork to take quite small screws. A new pattern of wall plug and the tool required with it are shown by this firm. "Bestplugs" are made of a composition sufficiently substantial to stand being driven into a hole slightly less in diameter than themselves, yet soft enough to expand when the screw is driven home and to be cut off flush with the plugged surface. The tool used has three

points away from the dead centre, and can be used in a brace as a drill, as well as a jumping tool. Demonstrations given at the stand show a very large saving of time in comparison with the usual methods. The tool is slotted in the usual way to clear the hole. The apparatus is put up in small boxes to include the drilling tool and a quantity of plugs and screws. It should be mentioned that one size of plug will take three or four sizes of screw; if necessary, the hole may be enlarged with a bradawl.

William Briggs & Sons, Ltd. (6, Lloyds-avenue, E.C.). **Stand 33, Row C.**

Roofing Felts, &c.—It might be imagined that to make a stand attractive when the items displayed are roofing felts and materials for damp courses would be difficult, but this firm has, by a tasteful display of flowers and a special sign, achieved this object. In the direction of bitumen damp courses may be noted examples of "Aqualite," "Challenge," and "Plastique," all well known, of course, but as to the last named, a new grade—"No. 2"—has been introduced. In roofings there are to be seen the "Challenge" permanent type; the "Bituflex," a roofing felt for temporary or semi-permanent structures; and the "Utex" utility roofing, which is of light weight, for small structures. It should also be mentioned that the firm has added to its normal black anti-corrosive paint other colours, *i.e.*, red, grey, and green.

British Plaster Board, Ltd. (605, Tower Building, Liverpool). **Stand No. 279, Row S.**

Plaster Board.—A stand representing a room constructed of "Thistle" plaster board is in possession of this firm. The plaster board itself is a sheet of gypsum plaster between two layers of tough paper, the material giving an excellent bond with the covering coat of gypsum plaster. Advantages claimed for it are that it will not swell, warp or buckle when plaster is applied, and so will not shrink when the plaster dries out; also it is a plaster-saver, a time-saver, and is damp-proof, sound-proof, and durable. At the same stand is shown the "Thistle" cement or hard wall plaster, a gypsum product which makes a hard enduring wall, mixes easily, and has great sand-carrying capacity. It is put on in two coats, the floating coat setting in a few hours and permitting the setting coat to be applied directly after, so saving much time. This is a non-lime plaster, and so is favourable for decoration as soon as dry.

Buckland Sand & Silica Co., Ltd. (Betchworth' Surrey). **Stand No. 132, Row G.**

Sand.—This firm exhibits samples of various grades of silica sand from its pits on the Buckland Court estate. The sands are found on the Lower Green-sand measures which outcrop in the country between Reigate and Betchworth, and are generally very clean and pure—yellow, cream, and white. For high-class concrete work their respective values have been proved in the construction of the new east and west reinforced concrete road of the Surrey County Council. One grade is also claimed to be one of the best plastering sands within reach of the London builder, and has been largely used in the reconstruction of Regent-street, the station work of the Electric Railway extension to Morden, and other public buildings. Specimens of carved artificial stone made from these sands, with white Portland cement, are shown, and these are claimed to be excellent substitutes for natural Portland, Bath, and Caen stone.

"The Builder," Ltd. (4, Catherine-street, Aldwych, W.C.2). **Stands No. 232, Row N, and No. 118, Row F.**

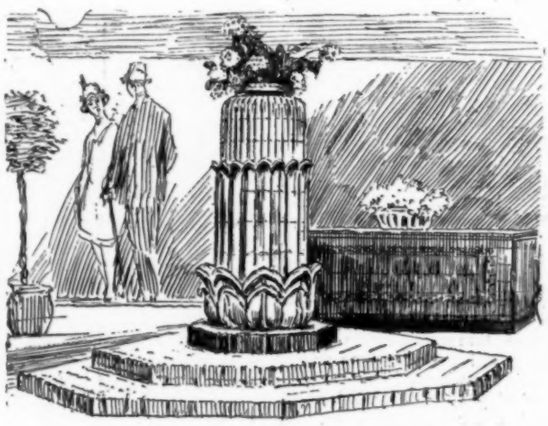
Publications, &c.—Visitors to the *Builder* stand will find displayed all the special Exhibition Numbers of the *Builder*, together with issues of *Architecture* (including the April number, just out), and an attractive selection of technical and other books of interest to architects, builders, and the general public. A feature of the stand is a wireless set which is working all day. The outfit is Messrs. Burndept's "Ethodyne," working in conjunction with an Ethovox loud speaker.

George M. Callender & Co., Ltd. (25, Victoria-street, S.W.). **Stand No. 82, Row D.**

Waterproof Sheeting.—For many years the trade has been familiar with Callender's waterproofing "Callendrite" sheeting for open-air water containers, such as reservoirs, ponds, swimming baths, and the like. The exhibit which occupies the centre of the firm's stand gives a practical illustration of this use of the sheeting, being in the form of a model reservoir made of wood with sloping sides and lined with "Callendrite." In the centre of the reservoir also is a column of loose porous bricks, under the top course of which, just above water-level, is a piece of "Callendrite" damp-course. The bricks above this damp-course may be seen to be perfectly dry. Another damp-course exhibited is the "Ledkore," which, as its name indicates, is a core of sheet lead with a bitumen covering on either side. At the east end of the stand is shown a section of wall treated with "Protex," a preparation for treating brickwork to render it damp-resisting. Jets of water play on to the wall. "Protex" is applied directly to the brick and then rendered with plaster. An example is shown of the plaster papered over, unaffected by the water. Other exhibits include specialities for roofing work, &c.

Carter & Co., Ltd. (Poole, Dorset, and 29, Albert Embankment, London, S.E.11.) **Stand No. 102, Row F.**

Glazed Tiles, Ceramic Materials, &c.—This stand has been designed by Mr. Leslie Mansfield, F.R.I.B.A., especially to set off the Company's products, and it is without question one of the most attractive in the Exhibition. Here one may see many kinds of tiling, &c., used with great effectiveness. The centrepiece is a colourful composition that, while having no special purpose, at once attracts attention to the stand. It displays a variety of ceramic constructional materials and faience, such as are being increasingly used for theatres, cinemas, public buildings, and shop and hotel façades, &c. In addition, the stand has a number of compartments, each of a distinctive character. There is a tiled bathroom, for instance, which might be guaranteed to banish any feeling of early-morning depression. Elsewhere all-tile fireplaces of attractive design and colouring are shown, while on the walls there are some delightfully decorative pieces, including a roundel in the Della Robbia manner (suitable for use in concrete buildings) and a decorative panel for a nursery fireplace. The application of various kinds of tiles, &c., to shop counters and stall boards is also shown in an attractive design.



The Stand of Carter & Co., Ltd.

Central Chemicals, Ltd. (71, Central Buildings, Southwark-street, S.E). **Stand No. 187, Row J.**

Glues.—Not only are there many kinds of glue, but each is made to fulfil a definite purpose. Two kinds at once come to notice—the "Certus" cold water glue, which is supplied in powder form and simply requires mixing with the correct proportions of water to be ready for use, and the "Fortil" liquid (skin) glue, which is especially strong and has many other excellent qualities. Demonstrations of these glues are given daily at the stand, and the holding power of the glue in joints is shown by the agency of the firm's special glue-testing machine. Other items at this stand which should be mentioned are glues for boxmakers and for tin labelling, the "Chemical" vegetable paste for delicate work, and the "Fortil" rubber flooring cement, which is designed for fixing rubber flooring to wood and damp concrete floors.

Chas. Churchill & Co., Ltd. (9-15, Leonard-street, Finsbury, E.C.2). **Stand No. 225a, Row N.**

Tiles & Paint Cleaner.—The principal exhibit on this stand is that of "Alundum" tiles for floor and stair work more particularly, though suitable for mural decoration also. The feature of this tiling is that it is extremely hard and durable and does not wear smooth and slippery. The advantage of this for stair nosing tiles is obvious. "Alundum" tiling may be obtained in all shapes and sizes, in many colours and patterns, so that it is as adaptable for fitting in with any scheme of decoration as one may wish. Also to be noted on this stand are aggregates for treating cement floors and terazzo to render them slip-proof, and samples of precast stair treads and slabs incorporating aggregates. Decorators will be interested in the large range of Manning abrasive cloths and papers. Shown at this Exhibition for the first time is the "Saroul" cleanser, a liquid put up in various sized containers, and worthy of note by the decorator for the facility with which it will clean paint work, soften hard paint brushes, or remove paint or grease from the hands.

Clarkhills, Ltd. (27, Old Bond-street, W.) **Stand No. 211, Row L.**

Automatic Water Heaters.—The Clarkhill heater is an extremely simple apparatus, the principal feature of which is a patent duplicate valve, by which the admission of water by turning on a tap lifts a valve giving free passage of water into the heater. The first valve is connected by rocking arms to a gas valve so that the operation of the water valve automatically operates the gas valve, admitting a full flow. A small by-pass gas jet provides for ignition. On closing any water tap the gas valve also closes automatically. This combination valve, it should be said, is entirely of metal. The heater coil is of very solid copper tubing in a special spiral construction. The apparatus operates from a very low head, or, if required, from a head up to 350 lbs. per sq. in. It is shown on the stand how one may obtain a very full flow of water at a temperature of between 140 and 150 deg. Fahr., which is sufficient for the normal kitchen and bath requirements of a household, and at the price of London gas the running cost is extremely small. The value of this particular type of heater for flats and subsidy houses will

be appreciated by the builder, as it saves the cost of a hot-water tank, return pipe, expansion pipe, brick flue, and the major part of the labour required to install a hot-water circulating system

Colthurst, Symons & Co., Ltd. (Bridgwater). **Stand No. 182, Row J.**

Roofing Tiles, &c.—The roofing specialities on this stand are of various types that have been proved to be effective in use as well as attractive in appearance. The interlocking Roman tiles exhibited so interlock that they are not easily displaced, and nailing is rendered unnecessary. The "Paragon" tiles, also shown, are of an improved type, having raised checks, which give protection against side or up drifts. The special feature of the "Acme" tile, which is also on view, is the bonding roll, which clips and covers the joint of adjacent tiles, and, being arrow-shaped, conducts flow of water down its own channel from ridge to eaves course. The lapping capacity may be varied up to 4 in., which is a great consideration when buildings are placed in exposed situations. Plain tiles, machine-made and hand-made, both plain and sand-faced, and toned tiles in light and dark tints, are also exhibited, together with an excellent selection of ridges, finials, oven and paving squares, land drain pipes, hip and valley tiles, and the well-known Bridgwater bath scouring bricks.

The Conbloc Co. (East Grinstead, Sussex). **Stand No. 168, Row J.**

Concrete Machinery.—The "Conbloc" machine shown on this stand will appeal to the builder who has a demand for small concrete products, such as blocks and bricks. It consists of a wooden mould box mounted on a wooden frame. The material is hand tamped, and the finished article removed by the operation of a lever which raises the product upwards through the mould. By the insertion of dividers and different face plates, a variety of different shapes and surfaces may be obtained.

The Concrete Manufacturing Co. (Battersea), Ltd. (Southampton House, 317, High Holborn, W.C.1). **Stand No. 284, Row T.**

Concrete Brick and Block-making Machinery, &c.—On this stand there is an interesting display of concrete machinery, including a working model of an automatic power machine for producing concrete bricks, slabs, and blocks (solid or hollow), partition slabs, and hollow floor blocks in large quantities in any size or shape within the dimensions, and with a minimum of labour. By a combination of vibration and ramming the machine produces a dense product having an even texture throughout its depth. Products can be safely handled and stacked as soon as they are made. The machine is a complete unit, with hopper, elevator, mixer, and rope transport. Among the other exhibits attention may be specially drawn to a portable concrete roofing tile machine, which, during the Exhibition, is being sold, together with 100 pallets, at a special price.

Courtrai-du Nord Tile Co., Ltd. (161, Borough High-street, S.E.). **Stand 277, Row S.**

Roofing Tiles.—This stand takes the form of a bungalow section in old English style, with a forecourt surrounded by a counter. The firm imports and distributes in England and Wales the Courtrai-du Nord roofing tiles, and the roofing of the bungalow section shows how good is the appearance of these tiles. On the counter one may see photographs in a large album of the seven associated factories which manufacture the tiles; it is obvious from these photographic views that this is a very large concern. The stand, as well as that of the associated firms, was designed by Messrs. Welch & Hollis.

Cuirass Products, Ltd. (Abbey House, Westminster). **Stand 179, Row J.**

Paints, Waterproofings, &c.—The exhibit of the Cuirass Co. is devoted to the making of roofs weatherproof. There is demonstrated a roof composed of felt, zinc and corrugated iron, on which flows a continuous heavy stream of water. There is no leakage through this roof, however, for it has been treated with the firm's liquid proofing and putty compound, which is an asphalt substitute. Particularly should one note the method of using a light canvas treated with liquid proofing, then putty compound and another coat of liquid, for the repair of roofs where disintegration due to weathering has caused trouble. In some instances the treatment has obviated the expense of re-roofing. The liquid proofing is also shown coated on to damp walls, which thereafter may be distempered, papered or painted, and on corrugated iron having rust-holes which have been repaired by its agency. Finally, there is displayed the Cuirass black enamel for ovens and cookers; the enamel has a good finish and does not burn off when heated.

Davies Bros. (225, Lea Bridge-road, Leyton, E.10). **Stand No. 288, Row T.**

Joinery.—Messrs. Davies Bros. show an excellent selection of joinery, such as window and door frames, doors, dressers, stairs, and mouldings, designed to meet the requirements of the speculative building trade. The firm, which is ready to quote competitive prices, is in a position to deliver joinery for over 100 houses per week. With the rapid growth in the number of houses being built by private enterprise, an exhibit such as this is extremely useful, and one that is certain to attract a good deal of attention.

Express Boilers, Ltd. (65, Great Portland-street, W.). **Stand 21, Row B.**

Gas Boilers.—So new that it is yet to be made commercially is a new size of Express boiler exhibited by this firm. The boiler already on the market is of copper, using a copper coil following a spiral gas ring. The boiler stands on two brackets and is connected to gas and water with a ½ in. service. There is a two-way tap for diverting hot water from one service to another, so that a boiler fitted over a sink can supply both sink and a bath, or, if necessary, sink, bath and basin. The gas consumption is a foot per minute. The temperature of the water delivered is in accordance with the flow; but an indicative figure is 1½ gallons per minute at 110 deg. Fahr. Boiling water is obtained in 17 seconds at the rate of three pints per minute. The new boiler will, when finished, give 4½ pints of boiling water per minute, commencing in about 20 secs. The gas consumption will be about 1¾ ft. per minute. These new boilers, we gather, will be placed on the market within a few weeks.

Fawcett Construction Co., Ltd. (65, Victoria-street, S.W.1). **Stand No. 171, Row J.**

Flooring and Chimney Pots.—On this stand are to be seen the "Monlithcrete" flooring system and the "Edwardian" down-draught preventing chimney pot. The flooring system consists of rolled steel joists which are filled in with concrete; the system is adaptable for any type of flooring, and also for roofs, bridges, &c. The well-known "Edwardian" chimney pot is claimed to be a complete preventer of down draught and all its unpleasantness.

J. Dawson Fawcett (Darlington), Ltd. (Haughton Engineering Works, Darlington). **Stand No. 299, Row V.**

Concrete Mixer.—This firm is exhibiting the Darlington concrete mixer, a portable type of machine with a capacity of seven cubic feet unmixed, and five cubic feet mixed per batch. The apparatus is very conveniently designed and forms, with its petrol engine, a complete unit. Belt drive can be substituted for the engine if desired. The firm also manufactures brick and tar macadam machinery.

Samuel Haskins & Bros., Ltd. (Walthamstow, E.). **Stand No. 143, Row G.**

Shopfittings, &c.—Though roller shutters and fireproof doors are among the principal exhibits on this stand, the visitor will first notice the excellence of the bronze metal work. One side of the stand is made as a shop-front, and opportunity is taken to display on this bronze mouldings and castings and "Kalamein" bronze-sheathed hardwood. There are also hardwood joinery and decorations. Of special interest is the steel roller shutter at the back of the stand, which is operated by a ¾ h.p. electric motor and is constantly being raised and lowered by that agency. The shutter shown is 19 ft. wide by 13½ ft. deep, but they can be made in any reasonable size and are supplied galvanised for tropical climates. Another shutter shown in operation is the "Firola," for party wall openings. This is a double shutter, fireproof, and geared to operate automatically. Quick in operation, it can be stopped in its descent at any stage and from either side. In this connection a special foolproof handle used is worth noting. A speciality of the firm is extruded bronze metalwork.

Stand of Messrs. S. Haskins & Bros., Ltd.

Jones & Attwood, Ltd. (Titan Foundry, Stourbridge). **Stand 39, Row C.**

Domestic Boilers, &c.—To display their special "Domestikatum" boiler and other specialities of a like nature, this firm has an excellent exhibit. The central construction of the

stand is recessed to take the "Domestikatums," and the apparatus shows to good advantage in these recesses. The apparatus in question is a combination of boiler for supplying the household hot water, with a good open fire, and facilities for cooking—just the type of thing now so much in demand for flats and subsidy houses. For flats and bungalows indeed the firm has found the demand sufficiently great to warrant the production of a smaller size; and another aid to popularity is that the whole of the range has been reduced in price recently. Other items which may be seen on this stand are the "Bon Fire" boiler for central heating and hot-water supply where an open fire is not needed; a one-unit "Batheater" combination of boiler and storage cylinder which obviates the need for flow and return pipes between boiler and cylinder. For greenhouses the "Cultivatum" boiler will be appreciated as a good thing, and there is also the "All Night" small independent boiler for garages and such places where fire risk is serious.

Lee & Fouracre (STEVENTON ENGINEERING WORKS, BERKS). **Stand No. 66, Row D.**

In our last issue we gave a description of the "Lee Magnum" concrete moulding machines, with special reference to the latest type which, it was stated, has been designed to enable the operator to make "twenty-four" standard size bricks in one operation. This was an error; the number that can be turned out at one time is six. The machines, which can be easily manipulated by one man, are portable, and a slight tip backward brings the wheels into action, so that they can be wheeled to any desired spot.

Lips, Ltd. (KINGSWAY HOUSE, KINGSWAY, W.C.) **Stand 291, Row T.**

Strong Room Equipment.—This firm are manufacturers of strong rooms, strong room equipment, safes, locks, and door furniture, and are exhibiting cylinder locks and latches, lever locks, door furniture, door checks, floor springs, and safes. The nature of the articles shown and their fine finish make the stand very attractive. We were interested especially in the working model of a time lock as used on bankers' strong room doors. The whole idea is wonderfully ingenious, and if all the doors of safe deposits and banks were fitted in this way it seems to us the burglar would find his occupation gone.

H. J. & C. Major (PATENT TILE WORKS, BRIDGWATER). **Stand 177, Row J.**

Tiles.—Like so many other exhibitors, this firm has constructed its stand very largely with its own materials, and thus a good idea of the effect to be obtained by their use is given. The firm are the makers of patent interlocking Roman tiles, Grecian tiles, &c., which are extensively used on many public buildings throughout the British Isles and in the Colonies, and are employed also in connection with many of the housing schemes now being carried out. They are manufactured from the well-known clays of Bridgwater, and each tile is subjected to an average pressure of 60 tons. As a result a dense and impervious body is obtained and it will generally be agreed that the finish leaves nothing to be desired. The locking arrangements, though simple, are ingenious, and the tiles can be fixed securely without nails. Further, they require no mortar or cement.

Mander Bros., Ltd. (VARNISH AND PAINT WORKS, WOLVERHAMPTON). **Stand No. 138, Row G.**

Paints, &c.—Messrs. Mander Brothers, Ltd., who have a depot at Noel-street, Oxford-street, London, W.1, and branches at Milan and Montreal, and agencies throughout the world, have an established reputation for the production of the highest qualities of varnishes, paints, and fine colours for all decorative purposes, and the large pavilion which the firm has at the Exhibition displays a number of their colours in standard shades to excellent advantage. These are as follows: For the interior—coved ceiling, Aqualine (water paint); walls, Aqualine (water paint); doors, mahogany Matsine. For the exterior—fascia, Vernasca flat oil paint); panels and frieze, Vernasca (flat oil paint); doors and woodwork, ebony black finish. At the back of the pavilion panels have been decorated to show a selection of rich standard shades of Vernasca.

Marryat & Scott (28, HATTON-GARDEN, E.C. 1). **Stand No. 101, Row E.**

Lifts.—An automatic push button lift in working order is the outstanding feature of this stand, which, in addition, contains many things of interest to the architect who is called upon to design a modern commercial building. The lift shown working is capable of raising loads up to two tons at a speed of 200 ft. per minute, with special decelerator equipment as supplied to H.M. Post Office for the Post Office London tube railway. We were interested particularly in the safety devices for lift gates, which can be fitted to any existing lift, and which seem to be about as fool proof as it is possible to make them. The firm are makers of hand as well as electric lifts, and these are shown. Our attention was directed also to the original drawings for advertisements which are ranged round the stand and added to its attractiveness.

Mond Tar By-Products Syndicate, Ltd. (47, VICTORIA-STREET, S.W.) **Stand No. 200, Row K.**

Paints, &c.—Melanoid paints, which are the result of many years of research at one of the Mond laboratories, are shown, both black and coloured. These colloidal bituminous compositions are especially suitable for all forms of metal and woodwork, for they have a great covering capacity and dry very rapidly. "Zulite," a wood preservative, also emanates from the Mond laboratories. Architects faced with the bogey of dry rot will no doubt pay attention to this compound, for which many merits are claimed. Another article which will interest is "Ceilingite," a white distemper, specially prepared for ceilings. The makers put forward the claim that it is cheaper than whitewash and goes further.

Moule's Patent Earth Closet Co. (1½, GUILDFORD-STREET, W.C.) **Stand No. 117, Row F.**

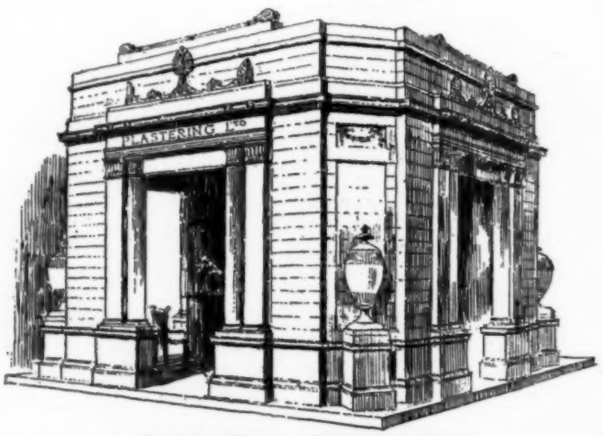
Earth Closets.—Although the water carriage system of sanitation has made such rapid strides in this country, there are still large rural districts which have no organised system. These need not, however, be classed as insanitary, for the patent earth closets of this company provide a hygienic method of dealing with domestic sewage, and they are so constructed that when installed their appearance differs but slightly from the ordinary water closet. The new "D" type is specially suitable for rural housing schemes and has already been adopted largely by those responsible for such houses. It is light, strong, portable, and self-contained, the woodwork being of the best plain deal and the apparatus and fittings of galvanised iron. Each is furnished with a strong galvanised iron pail, which can, of course, be easily removed for emptying. The firm, as is well-known, has carried out large contracts with the various Government departments for closets of various types, and there is no doubt that in certain circumstances the earth system possesses a number of advantages.

Thomas Parsons & Sons (315 & 317, OXFORD-STREET, W.) **Stand No. 133, Row G.**

Paints, Enamels, &c.—The stand of Messrs. Thomas Parsons & Sons takes the form of a battleship, christened "H.M.S. Endelline." From the bridge the Lord Mayor of London declared the Exhibition open. The stand itself furnishes the best evidence of the excellence of the company's products, for the whole of it is painted or enamelled with them. With respect to the various items shown, there are the "Endelline" enamels which, besides producing a porcelain-like finish, can be repeatedly washed without deterioration. "Endelflat" is a flat enamel for interior use, and it gives a very nice soft finish, which can also be washed without harm. "Lacreite" enamel, for either inside or outside work, is a less expensive product, but makes a very satisfactory substitute for "Endelline" where cost is the ruling factor. "Unicote" flat finish is a most useful wall decorative material, which is not a distemper. Our attention was called especially to "Parso Glaze," a new glazing material, produced in a wide selection of shades, which has now been placed on the market after a long period of practical experimental work. It is admirably suited for use on large surfaces. To get the best results there should be a coating of undercoating Parso glaze, which is an egg-shell enamel with just the right surface when dry for the reception of the glaze. Demonstrations of the firm's rubber stipplers in conjunction with Parso glaze are being given on the stand. The products mentioned are not the only things being shown which will interest architects, builders, and decorators.

G. D. Peters & Co., Ltd. (CAXTON HOUSE, WESTMINSTER, S.W.1), **Stand No. 254, Row Q.**

"Sundeala" Wall Board.—A complete room is exhibited to show the application of "Sundeala" wall board as a panelling for walls and ceilings in place of plaster. It is a non-absorbent wood pulp fibre board which is homogeneous, possesses great rigidity and strength, and it is claimed will not blister, warp, nor split under changing temperatures. Its waterproofness is conclusively demonstrated on the stand. The board will take a perfect finish of paint, enamel, distemper, or varnish. Samples of the various decorated types are also shown, these covering such designs as blue, white and green



Stand of Messrs. Plastering, Ltd.

[Stand No. 259, Row Q—Showing plain and fibrous plaster and coloured and uncoloured stucco.]

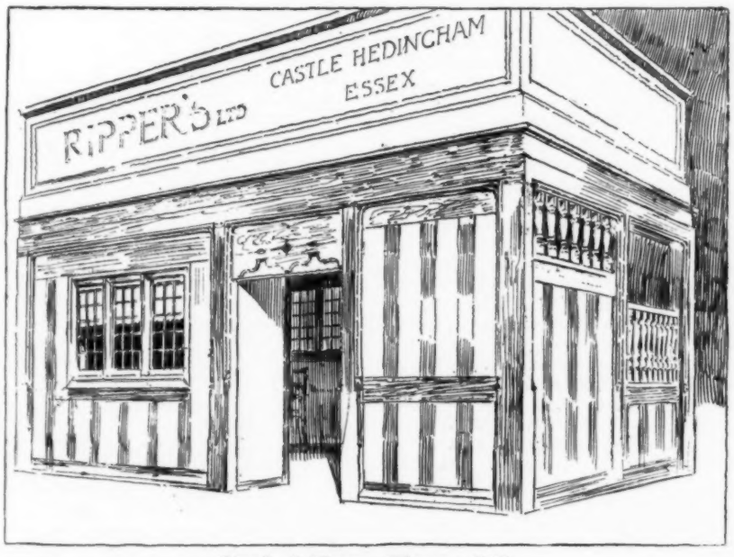
tiles suitable for use in hospitals, bathrooms, kitchens, &c., and oak grain, seal grain, crocodile, and antique leather, any of which will provide an excellent panelled finish in dining and billiard rooms, halls, lounges, and cabins, &c. "Sundeala" board has lately been used in considerable quantities on the R.M.S.P. *Asturias*, and the *Doric* of the White Star Line, while in the Catterick Camps it is being used to the extent of nearly half a million superficial feet.

Pollard Engineering Co (Palace House, 128, Shaftesbury-avenue, W. 1). **Stand No. 31, Row C.**

Geysers.—The "Pollard" safety geyser, an entirely new departure in geyser manufacture, is shown by this firm. It was designed to meet the demand for a reliable and moderately-priced geyser in which the construction is the essence of simplicity. The principle of the design is that the water after flowing up the jacketted sides of the body, falls downwards across a series of perforated trays, and thence from the bottom tray direct to the outlet spout. No tubes are used and hence there is no trouble from furring. The burner is of special design and gives a blue bunsen flame, which it is stated burns only 30 per cent. of gas. Another geyser of very similar design is fitted with a wickless paraffin oil stove. It will thus be seen that the most out of the way cottage can be afforded facilities for hot baths at a moderate cost.

The Rawlplug Co., Ltd. (Gloucester House, Cromwell-road, London, S.W.7). **Stand No. 54, Row D.**

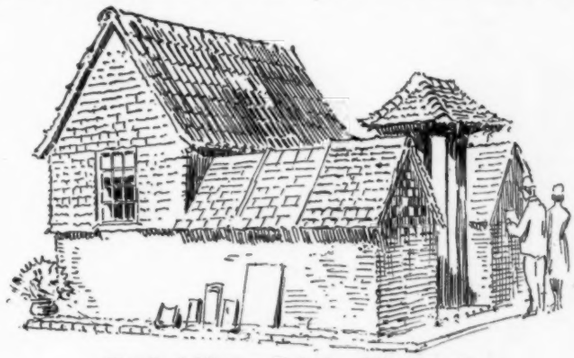
Rawlplugs, &c.—These plugs are now so well known to architects, builders, and the general public that they need no description. All the various sizes of plugs are exhibited, from the small one for fixing screws, which will take a pull of four tons, to the Rawlplug bolt anchor, which will take a pull of twenty tons. Both types of plug will hold any fixture permanently to any material. The company has a research department which is constantly at work, and from time to time new varieties of these fixtures are introduced. The bolt anchor, one of the latest, is all metal and therefore unaffected by atmospheric conditions; it can be fixed in water if necessary. Especially is it appropriate to heavy outdoor constructional work. Various other Rawlplug products are on view, including tools, bathroom fittings, liquid porcelain, waterproof adhesive, &c.



Stand of Messrs. Rippers, Ltd.

Ripon Steel Co. (Ripon). **Stand No. 6, Row B.**

Steel Building Frames.—The high cost of permanent buildings has led to an enormous demand for structures of lighter type, and the Ripon Steel Co. has been highly successful in the production of steel building frames for all classes of warehouses, sheds, pavilions, agricultural buildings, works, garages, drill halls, village institutes, &c. The stand itself takes the form of a garage with all-steel framing covered with asbestos sheeting and fitted with patent sliding doors. This building is a strong testimonial to the general products of the company. A speciality is made of cheap light structural work, reconditioned from War Office material but all material is of the best. Another item shown is the patent fast grip vice and stand, and samples are on view of pressed steel guttering, spouting, &c. The company will erect the building itself or quote for the material only.



Stand of Messrs. Roberts, Adlard & Co.

Roberts, Adlard & Co. (47, Queen Elizabeth-street, Bermondsey, S.W.). **Stand No. 269, Row R.**

Roofing Materials.—A good idea of the appearance of the tiles, brick, and slates handled by this firm will be gained by an inspection of the stand, for they are entirely employed in its construction. Roof tiles of all descriptions are shown, both hand and machine made, and of various colours. Then the examples of slates include Eureka green and rustic random, silver grey, grey, grey green, and variegated; and also Bangor and Portmadoc slates. The bricks shown will also gladden the eye of the architect who is looking for something differing from the common machine-made brick which goes to make the ordinary housing scheme. There are exhibited further quarry tiles, fire-place briquettes, air bricks, and "Fullersite." The latter is a filler for use in connection with road construction. No carbonic acid is present in "Fullersite," and this fact in conjunction with the smallness of the percentages of lime and magnesia, is proof that it contains no perishable constituents.

The Ruberoid Co., Ltd. (Lincoln House, 296–302, High Holborn, London, W.C.1). **Stand No. 147, Row H.**

Ruberoid Roofing, &c.—The special feature of this exhibit is a new form of strip Ruberoid slate formed by rolling crushed natural slate into the material during manufacture. It is made in two unfading colours, red and green, and in two forms, octagonal and hexagonal, and is obtainable in strips 33 in. long with four "slates" to the strip. It is easily fixed by means of copper clouts on close boarding, and in places has two and even three thicknesses. The material is specially appropriate for use on bungalows, sports pavilions, pier pavilions, &c. The firm also exhibit a selection of their well-known specialities, such as dampcourses, sarking felt, roofing felt, insulating papers, preservative paints, &c.

Frederick Sage & Co. (58-62, Gray's Inn-road, W.C.). **Stand No. 256, Row Q.**

Shop Fronts and Fittings.—An excellent example of the class of work this firm turns out is provided by the stand itself. The front portion consists of a bronze metal and oak shop front, which has been made for a Belgian house. It is of considerable proportions and when installed in its proper place should present an excellent appearance. Another side of the stand shows a door frame which is going to the same client. There are shown also a number of cases, one being in oak with brass fittings. A feature is made of the kidney shaped cases, which are, of course, stock articles of the firm. A large number of vitreous enamelled letters are exhibited as well as marble and granite slabs for window rises, and so on. We noted in addition two rather novel electric lamp bowls, one being of a peacock pattern.

Scaffolding (Great Britain), Ltd. (Lansdowne-road, Stockwell, London, S.W.8). **Stand No. 51, Row D.**

Tubular Scaffolding, &c.—Demonstrations are given daily on this stand to show the advantage of tubular scaffolding, which is being increasingly used by building contractors as well as for the erection of stands for spectators. An interesting model is shown of a stand similar to those erected by the firm for the Trooping of the Colour, for the Prince of Wales's visit to Birmingham, for the Duke of York's and for Princess Mary's wedding, the Military Tattoo, &c. Other interesting features of this exhibit were described in our last issue.

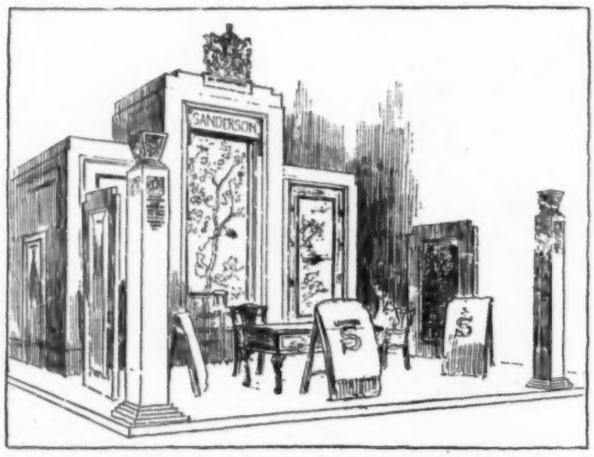
Arthur Sanderson & Sons, Ltd. (52–55, Berners-street, London, W.1). **Stand No. 108, Row F.**

Wallpapers and Paints.—This stand has been very attractively designed to display some beautiful wallpapers and paints. The attention is at once attracted by a Chinese hand-painted wallpaper panel, one of twenty executed about 1780. In addition to this set, which is painted on a pink ground, there is another set of 23 lengths on a green ground, both being offered for sale. Around this centrepiece are grouped modern wallpapers of Chinese inspiration, hand-

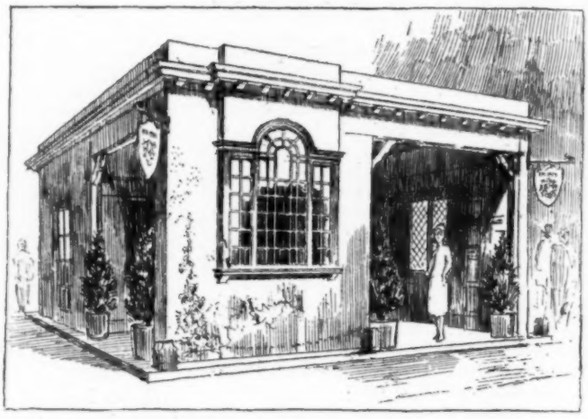
painted decorations on grass cloth, of which material an extensive range is stocked, and an example of the new sun-base decorations. Another interesting exhibit is a specimen of the new scenic decoration type of wallpaper, which can be either set out in panels or run around a room without any repetition of design. The paint display is chiefly devoted to the exhibition of Durolave—a beautiful washable water paint. Sanstonia, the brush-applied stone finish, and needs no detailed reference here. The stand has been erected and decorated with various enamels and paints, such as Sissons' oil flat, "Olac" enamel, "Gen-a-Pur" varnish, and Sissons' bright gloss paint. We examined particularly a door treated with bright gloss paint, and at a casual glance it can easily be mistaken for enamel. This paint is recommended for use on plaster and woodwork and owing to its durability and anti-corrosive tenoned, and the cross joints mitred and spot-welded. Although largely used for housing schemes, these steel windows are not for that purpose only. As a matter of fact, they are designed for any building, from the cottage to the factory.

The Sussex Brick & Estates Co., Ltd. (Horsham, Sussex). **Stand No. 184, Row J.**

Bricks.—This stand has been specially designed to show the varieties and applications of the firm's brick products. It is attractive architecturally, and displays the various types of bricks to great advantage. These include, for inside work, Warnham common pressed bricks and common wirecuts, and for facings



Stand of Messrs. A. Sanderson & Sons, Ltd.



Stand of Messrs. Sissons Bros. & Co., Ltd.

together with an example of work executed in special front-door varnish, while other panels display the fine gloss of Dersonite enamel and the smooth richness of Dersonol flat enamel. Another interesting exhibit is the Nitro-Durolave lacquer for furniture, which has the valuable quality of being damage-proof. Nothing can stain it, not even spirits.

James A. Shepherd & Co., Ltd. (Forth Works, Pollokshields, Glasgow). **Stand No. 287, Row T.**

Paints, &c.—Three specialities of interest to architects, builders and others are exhibited on this stand. The first is "Enameloid," a paint specially manufactured for application to stone, cement, concrete or brick, which it is claimed to render waterproof as well as stopping any action of decay that may have begun on an exposed surface. The paint is also suitable for inside use, and can be supplied in various colours. There is an interesting demonstration of two-coat work done on the stand, and the decorative possibilities of the paint are shown in some attractive cloud effects carried out on the friezes. It may be pointed out that one coat of "Enameloid" is sufficient to cover new plasterwork. This fact is attested by a demonstration on a panel of the adjacent stand of the British Plasterboard Co. Another exhibit is "Bull-dog Oil Dressing," which is spark and ant-proof and will neither crack nor burn. It is suitable for tarpaulins and tentings, wagon sheets, motor awnings, &c. Another speciality is "Chemicoil," a new waterproofing liquid which becomes part of the fabric on which it is used. It can be used successfully on old and worn covers, for reproofing tents, ships' sails, awnings, oilskins, &c. "Chemicoil" will re-surface any fabric not too worn. It is supplied in various colours and is suitable for any climate.

Sissons Bros. & Co., Ltd. (Hull, and 203, Borough High-street, S.E.). **Stand No. 266, Row R.**

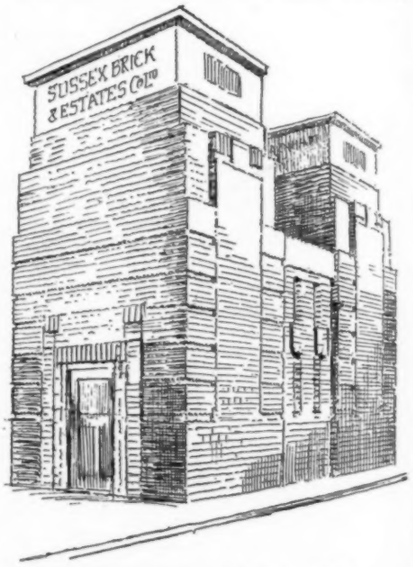
Paints.—A firm which has a record of 123 years' working could only have justified that existence by having built up a reputation for high-class products. Judging by the stand, it is obvious that there is no intention on the part of the management to rely on the past alone, although, of course, many of the articles which have been so successful are still kept in the foreground. There is, for instance, Hall's distemper, which is known the whole world over, qualities, is a good protection for exposed metal work. One of the great merits of the paints insisted on by the Company is the fact that they are washable, and this was demonstrated in a very convincing manner at a recent exhibition at Olympia. Another thing which will commend itself to visitors is the fact that the panels and other woodwork comprising the stand have not been specially prepared for receiving the paint and enamel. The idea has been rather to show how the paints look when applied under ordinary working conditions.

Samuel Smith & Sons (Beehive Foundry, Smethwick). **Stand No. 217, Row L.**

Ranges, &c.—A variety of ranges is to be seen on this stand, the most prominent being, of course, the "Foresight." It is one of the combination ranges which are becoming an ordinary feature in houses nowadays, and inspection will show that, when installed, it is pleasing in appearance, and, we should think, capable of doing all that is claimed for it by the makers. An important feature is the boiler, which is of the intersecting type and allows of the maximum heating surface. An abundance of hot water in a house is, without doubt, an enormous boon, and this has been recognised by the designers of the range. A flat tile register is an entirely new production of the firm, and is being shown for the first time. We were told that the cost is a low one, and could see for ourselves that no criticism can be levelled at its appearance. This register is being used in connection with several housing schemes, and would appear to be very suitable for such a purpose.

Standard Metal Window Co. and **Stonehouse Works Co.** (Houghton-street, West Bromwich). **Stand 280, Row S.**

Steel Windows.—Ocular demonstration is afforded at this stand of the article it is sought to advance, for the structure is composed mainly of steel windows and steel partitioning and wood surrounds to take steel windows. These windows, we were informed, have been supplied very largely for housing schemes in different parts of the country, and a good many of them can be seen at Welwyn Garden City. The special point put forward is that everything is tapped and screwed, and there are no rivets, so that sections can be easily replaced. The frames are made from rolled steel sections butted at the corners to ensure good cross welded joint, interior bars are



Stand of the Sussex Brick and Estates Co., Ltd.

dark and light kiln stocks, machine pressed reds, engineering sewer, and brindled engineering bricks, hand-made clamp stocks, flared and multi-coloured reds and special moulded bricks. The stand is one of special interest to architects, builders, and civil engineers.

Thomas & Bishop, Ltd. (37, Tabernacle-street, London, E.C.2). **Stand No. 36, Row C.**

Belt Treatments, &c.—This is an exhibit which will appeal especially to engineers and power users generally, who know from bitter experience the loss and inconvenience that accompany the use of machinery when run inefficiently. A prime cause of trouble is the slipping belt. This may now be overcome by the application of "Cling Surface" and "Erusa

Stand of the Yorkshire Copper Works, Ltd.

Belt Treatments," which contain no tars, mineral oils, or acids. A plant on the stand demonstrates the effectiveness of these materials by means of two leather belts, one being treated and the other untreated. The increased efficiency of the treated belt as against the untreated one is shown by a voltmeter and a bank of lamps, and by means of a small model on which the visitor may carry out a test for himself. Other exhibits include "Permac" jointing material, various types of lubricators, "Flexo" leather and textile belting, an oil reclaiming plant, and a refractory cement called "Thermolith" for the bonding of brickwork where high temperatures are the rule. The cement has many applications, for it adheres to glass, tin, and metal generally, as well as to brickwork.

Waygood-Otis, Ltd. (54 & 55, Fetter-lane, E.C.). **Stand No. 114, Row F.**

Lifts.—If the visitor cares he can take a journey from the stand to the Gallery by a working passenger lift. This is a patent micro-drive self-levelling machine, arranged to give an absolute level stopping at the floor in either direction whatever the load in the car on any particular journey. The advantages of such a lift for hospitals or for goods lifts where heavy trolleys have to be run in and out of the liftcar are obvious. The Exhibition lift is arranged so that it can be operated by car switch or by push buttons with automatic control. An ingenious system for controlling the use of any particular lift where a number of lifts are installed in a building is shown. The push-button control for lifts for private houses and small buildings, where it is incumbent to avoid the expense of an attendant, is quite simple, and the safety locks ensure that the doors can only be opened or shut at the proper places. Detailed description of these larger lifts is not necessary, for every reader must have had experience of them, seeing that so many of the lifts used in both this country and in the British Dominions have been installed by the Company. On the stand also are specimens of hand-power dinner lifts, in one case arranged to work with endless rope from all floors, and in other cases to wind up by handle from below. A large number of accessories are also exhibited.

A Correction.

In our last issue, page 685, we published a list of tenders for dwellings in Shepherdess-walk, Turner's-place, and Wenlock-road, for the City Corporation. It should have been stated that the tender of Messrs. Hall, Beddall & Co., Ltd. (recommended for acceptance), comparable with the other tenders received, was for the amount of £93,796, the figure given in our list being as amended.

Brickmaker's Estate.

Mr. Joseph Howard Moore, age 57, of Park House, Cradley, Worcs., fire-brick manufacturer, left an estate of £10,707.

SUBSTANCE, FORM, AND COLOUR IN CONCRETE

Giving a lecture on this subject at the Building Exhibition, on Wednesday last (Mr. Ralph Knott, F.R.I.B.A., in the chair), Mr. Frederic Coleman, F.R.G.S., said the value of concrete as a plastic material, so easily and so speedily produced, was firmly established. We were continually learning new facts as to the utility of concrete in general. Even more fertile was the field of development in the treatment of the exterior appearance of concrete structures. The surface problem in concrete daily received more attention. Those who planned, directed, or produced a concrete construction, no matter what its character, readily admitted the unattractiveness of a grey cement surface. Yet a grey cement surface on concrete in general was the rule rather than the exception. The best evidence of universal dissatisfaction with the appearance of a surface composed of a skin of grey cement was what was usually done to hide it. As soon as practicable, the grey concrete surface was treated by some method, first, to make it smooth; then it was covered or coloured by a paint, a wash, or some similar disguise—changing as soon and as completely as possible its birth-appearance.

Thus those who planned the use of a grey concrete surface and those who executed the work were faced with an immediate demand for an attractive surface appearance, both in colour and texture, as well as a surface to which the application of a rendering in concrete would closely and permanently bond, and which would be dependably weather-resistant, non-cracking, would not dust or disintegrate, would wear well, and would not blister or blotch. The first stumbling-block along that road was the skin or thin covering of neat, or almost neat, Portland cement that usually composed the actual surface of concrete, whether it be placed in forms or produced as concrete renderings, toppings, or stucco work. Not only on the surface of form-cast concrete, but on the surface of concrete floors or roadways, an unhealthy concentration of cement would be usually found. If that cement was almost pure, or neat, it would seek an outlet within itself for those energies which were normally exerted when it chemically and physically united an aggregate of stone, gravel, or sand. That action within itself had no regard for the sensibilities of the concrete behind or under it, of which it should be, and was, originally an integral part. This misapplied energy was self-destructive. It produced dusting and scaling, cracks and crazing. Instead of being a protection to the concrete and a necessity to it—as some people thought it—it was a destroying agent and a menace to the permanency of the concrete itself.

One day, said the speaker, it would be the rule, and not the exception, to produce concrete from which that undesirable surface skin of grey cement had been removed, or concrete so produced that the skin was eliminated from the equation during production. When that day came concrete would be even more durable and more dependable. Dusting, surface-cracking, and crazing would be eliminated. It would have an appearance far more pleasing than that by which the man in the street to-day recognised a concrete surface. The sand and the stone or pebbles which formed the aggregate of concrete might possess great beauty of form and colour. To-day they were usually concealed by the cement skin. The introduction of a pure white Portland cement of late years had given us a white surface. White Portland cement was to colour in concrete what white pigment was to the painter. The uses of white concrete were legion. It was a factor in modern construction that had come to stay and was always sure of its welcome. It assisted us in itself, but it could be used to best effect when in combination with the natural colours of the aggregates—the coloured stone and the coloured sand with which it might be combined to form coloured concrete.

Colouring matter of other character than coloured aggregate must be used for external concrete surfaces with great care. The durability and the colour content of oxide-coloured concrete were not to be compared with that of concrete that derived its colour from the natural tints of the stone and sand of which it was made.

Mr. Coleman showed several score of lantern slides, many of them coloured, in explanation of the colouring of concrete by a combination of a true white Portland cement and aggregates of various kinds and colours. Such varied schools of work in concrete as white Portland cement stucco, terrazzo, white cast concrete stone, cast concrete statuary, and concrete shuttering were fully illustrated. Buildings of many different classes were shown on the screen in many examples of both British and American architecture.

We give in this issue two of the illustrations shown. The Lincoln Memorial, Washington, illustrated on page 688, is of white natural stone pointed, set and backed in white Portland cement mortar.

After illustrating the progress of colour production in almost every conceivable sort of concrete surface, Mr. Coleman showed by a cinematograph film how some of the varied textural surfaces in white Portland cement concrete are executed. The value of light and shade on stucco walls of rare and beautiful texture was clearly demonstrated, as was the ease with which ordinary labour can produce such effects when the simple method of procedure is explained.

Westchester Biltmore Club, at Rye, New York, (White Cement Stucco Surface).

Messrs. Warren & Wetmore, Architects.

APPROXIMATE ESTIMATING

MR. ALAN W. DAVSON, in the course of a recent lecture on this subject to the students of the Northern Polytechnic, began by defining the word "approximate," which in dictionary terms, he said, meant nearly approaching accuracy, fairly or reasonably accurate. He emphasised that unless an approximate estimate met these requirements it was misleading to the building owner who directly or indirectly required such estimates, and was therefore detrimental to the prestige of the estimator, whether architect, quantity surveyor or builder.

Holding that approximate estimating, to be successful, must be based upon accurate methods, the speaker went on to explain in some detail the bill of quantities—the basis of the most accurate form of building estimating to-day—and the separate processes leading up to the bill, namely, the dimensions (the method of measurement) and the abstract, reducing these measurements under their separate headings. He explained how tenders, based upon this method of quantities, demanded the co-operation of building owner, architect, quantity surveyor, builder and estimator, in order to ensure that as nearly as possible the figure included every requirement of the plan, and that the final figure should not exceed the contract amount (subject to the architect's advice being followed and the client making no considerable amendments afterwards). The speaker pointed out that the omission of the services of any one of these men meant that the estimate or tender must be less accurate; in other words, an approximate estimate.

After this he described the firm tender of the builder based upon the drawings of a qualified architect and the schedule of a skilled estimator, as a form of approximate estimate, and a method recognised by the L.M.B.A. for works under £1,000, or for larger work when not more than three firms were invited to tender.

The speaker then dealt with the estimator, laying stress on his ability to analyse prices rapidly and accurately as a fundamental basis of his work, and giving an illustration of this procedure. He pointed out that the whole routine of an estimator's work, including superintendence of works in progress, measuring with the quantity surveyor, and, as he progressed, works supervision and management, made pricing second nature to him.

He then showed how the estimator or estimating surveyor, hard pressed for time, where there were no quantities and when called upon, therefore, to undertake to some degree part of a quantity surveyor's work under many handicaps, whilst adhering to the principles of measurement of the standard method, reduced his measurements by covering small items of labour in the cost, and combined, as far as was necessary, the separate processes of dimensions, abstracting and billing, on one sheet of bill paper, or paper specially ruled for that purpose.

He said that the quantity surveyor for approximate estimating or alteration work very often cut out the abstract, taking off his dimensions on an abridged standard system on the left-hand side of his paper, and billing and pricing the work as above described. Any attempt to apply any shorter method of approximate estimating to this class of work, that was, alterations, was fraught with danger.

Mr. Davson then continued: Leaving these methods adopted by the estimating surveyor for firm tendering, we pass to the consideration of the shorter rough methods often utilised by architects and quantity surveyors as a guide in estimating the cost of old or new buildings for insurance purposes or the cost of new buildings for preliminary schemes of any size or type.

Up to quite recently, since the war, it was more or less impossible to adopt any of these methods, for the prices of materials and labour were so liable to fluctuation as to render approximate estimating very hazardous. Both these factors are gradually becoming more stable, although labour costs are still erratic. It must be remembered that for the purpose of approximate estimates for new work such as we are about to discuss, the best we can hope to have are some ¼ or 1-16 scale sketch plans, and possibly an elevation and a section. If we get more than that we are in clover. From these sketches we must be able to visualise all the details necessary to the job.

The chief of these methods of approximate estimating with which I propose to deal are:—

1. Price per unit of accommodation.
2. Price per square foot.
3. Price per foot cube.

Unit of Accommodation.

When complete records exist in mass of the conversion of one type of building to another, it is possible to quote a price per unit for such conversion very accurately. In more general cases, such as hospitals, schools, etc., a record often quotes a price per bed, per scholar, etc. This cost per unit is arrived at merely by dividing the total cost of the building by the number of beds, scholars, etc. The cost per bed, therefore, in the case of hospitals carries with it a proportion of the cost of administrative block, nurses' quarters, operating theatres and other accommodation, which naturally vary considerably in every case. These approximations are useful as a very rough guide in preliminary discussions of new schemes, but must never be relied on at any later stage, without confirmation by other methods of approximate estimating.

Price per Foot Superficial.

This method consists in making a record of past work executed, by taking the cost, dividing it by the total area of the floor, and thus arriving at a price per foot superficial of floor area. Thus, total cost equals £100. Floor area 100 ft. super. Cost per foot super £1. When an appropriate estimate for a new building of a similar type is to be arrived at from this method, the floor area of the new building is ascertained from the drawings and is multiplied by the cost per foot super of the record. The total approximate cost of new work is then said to have been arrived at.

Two methods of measurement of floor area are used. The first is known as the gross area of accommodation. This area is measured within the containing walls of the house, so as to include the area of chimney breasts, bay windows, and similar spaces. In the case of two-storied houses, it is the combined area so measured of these two stories. The second method is known as the nett area accommodation. This area is measured by deducting chimneys, passages, staircases, etc. It is also known as the carpet area method, and is used to a considerable extent by agents for letting purposes. The cost per foot super method has its main value in determining whether the planning of different schemes of the same character is really economic or not, as can be seen from a study of Mr. Sumner Smith's "Concise Costing of Housing." If using this method for approximate estimating it is wise to do so in conjunction with the price per foot cube method, for any blatant error in one will show by reference to the other.

Price per Foot Cube.

This method is probably the most used, certainly the most discussed, and perhaps the least understood. Generally, numerous additions have to be made to the figure arrived at to reach the total cost. Very often these necessary additions or omissions are overlooked with disastrous results. To deal with the dimensions first. The usual example given is of a building with normal foundations, about two or three feet below the ground and a pitched roof with gable ends. To arrive at the cubical contents, first obtain the total length of the building and the total breadth, in both cases including the walls. For the third dimension, measure from the top of the concrete foundations half-way up the roof. In cases of flat roofs it is a general custom to take 2 ft. above the flat although it is questionable whether this is strictly correct for comparative purposes. Do not include projections or ordinary plinths, cornices, etc., or footings. Ignore pilasters, dormer windows and chimneys, if not of a special character (how to deal with them if of a special character will be referred to later). Having arrived at the cubical contents, the skill lies in attaching the correct price per foot cube, so that the resulting total arrived at (or supplemented or adjusted) may be equal to the total cost of the work executed (provided no substantial variations are made meantime by the building owner). So the price per foot cube is arrived at as follows:—

Length. Width. Height as described.

20 × 10 × 16 feet = 3,200 c. ft.
Assuming the price of 1s. 6d. per ft. cube.
Total cost = £240.

Some surveyors add the cube for dormers, chimneys, etc. Again, some, in the case of commercial buildings, cube portions of the building according to their character, taking a separate cube, say, for the upper floors—flats, the ground floor—shops, the basement and sub-basement, attaching a price per foot cube to each, according to its merits. This, in some ways, is an excellent method, and provided individual estimators keep to the system of working which they have adopted and upon which their records are based without variation, it matters little as far as their own use of these records is concerned. If, however, records are to be laid open to general use, the method adopted must be clearly stated, or a standard method substituted.

The utility of these methods—per foot cube and foot super—and, in fact, any method of approximate estimating, is governed by the following points. (For simplicity the investigation is carried on in connection with the price per foot cube method.) The first point is: Does the total cost given in the record, which is to form the basis of the price per foot cube to be used for compiling the approximate estimate, actually constitute the total cost of the building, and if not, does the record clearly state what sub-contracts and other main items are not included?

In giving an example of the method of arriving at the total cost by the "price per foot cube" I said, "let us assume" a price, but in practice, of course, to assume a price is to court disaster. Let us get blazed into our minds that the price per foot cube which it is proposed to use must be based upon records of past work executed of a similar character.

Those architects and quantity surveyors who keep records generally tabulate them as under:

Date.	Name.	Cub. Ft.	Rate.	Approximate Estimate and Lowest Tender.	Remarks.
January, 1923	Block of offices	790,397	3s.	£118,559 £115,266	——

Sometimes a little more information is given, as, for instance, the final cost.

This record is sufficient if the drawings, specification and quantities can be referred to for more complete information, when it is proposed to make up an approximate estimate from it. But even then, the briefness of this

summary has its dangers. When such figures are published for the use of people who cannot refer to the accurate methods underlying them, they are liable to be very misleading.

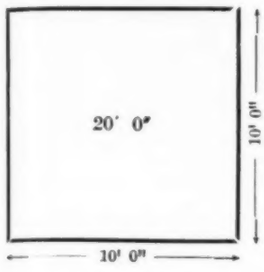


Fig. A.

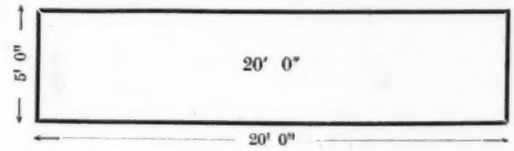


Fig. B.

Suppose figures A. and B. represent two water towers 10 ft. by 10 ft. by 20 ft. and 20 ft. by 5 ft. by 20 ft., respectively, and that they are to be enclosed by brick walls so that the lower part may be used as a store.

	Total Cost.	Cubical Contents.	Price Per Ft. Cube.	Area Ft. Super.	Price Per Ft. Super.	Perimeter X = Wall Area Height.
A.	£100 ..	2,000 ..	1s.	100 ..	£1	.. 40 ft. × 20 ft.= 800
B.	£125 ..	2,000 ..	1s. 3d. ..	100 ..	£1 5s.	.. 50 ft. × 20 ft.=1,000

In either case it is very necessary to make certain, somehow, that everything that could be required has been included in the total cost of the building which constitutes the record, or as to exactly what is included. Nowadays, with the large number of sub-contractors available for steelwork, heating, electric light, one or more of these items are often left out of the quantities for the main contract. At a later date very likely the record will be compiled from the main figures, the total entered in the record book with the usual brief survey, and from the total cost the price per foot cube determined. This price per foot cube will be applied to an approximate estimate for new work. Tenders come in, and the lowest tender is much higher than the approximate estimate. All is confusion, and reference is then made to the details covered by the records, and it is found that in the particular job recorded, it was decided for some reason to leave lighting and heating out of the main contract, whilst in the new estimate it should have been included. See, therefore, that your record shows you exactly what is covered by the price per foot cube.

The second point is: Does the record give sufficiently complete data concerning special characteristics, since it is variations in general characteristics and finishings which constitute a considerable factor in the variation of the cost of two jobs?

This to some extent is a repetition of No. 1. But just as we must be certain that all the main items necessary to the building are included, so must we have adequate detail of the smaller items.

As far as the structure is concerned, for instance, the record might be for a building with unusually heavy foundations. If this is not mentioned in the record the price per foot cube of the new building will be unduly swelled. Finishings, again, constitute a very real source of variation in cost between two buildings. For instance, if the record provides only for stock bricks, lime and hair plaster, deal floors, etc., and in the new job special facings, Keene's, etc., part of walls panelled, part oak floors, etc., are required, the cost must necessarily be increased, and the extra must not be jumped at.

The record, therefore, must give any details necessary to such adjustments. In fact, it comes to this, that no approximate estimate is worth the paper it is written on unless it is based upon a comprehensive record, or unless (and not so sound) detail which should be entered in such a record is ready at hand to the user.

We have now come to the third point, viz.: Does the method used, automatically correct for the varying shapes of buildings, which may represent a very significant factor in the relative costs?

The figures given in this case disregard any foundations, the thickness of walls, and measurement of height above flat or projection of roof and are simply line diagrams utilised to bring home the point I am making.

We see that the cubic contents of these two buildings is the same and the floor areas the same, and some may assume that the price per foot cube will, therefore, be the same. But further examination shows that the perimeter of the walls is not the same. The perimeter in Fig. A is 40 ft. and in B 50 ft. Therefore there is 10 ft. run more wall in Fig. B than in Fig. A. Since the walls are 20 ft. high there is an increase of 200 superficial ft. in the case of the second building. The cost of building A according to the record is £100. 200 ft. super of brickwork at 2s. 6d. per foot is £25, so that the second building will cost £125. We see, therefore, that although the buildings are similar in the respects stated the cost of the second building is increased by 25 per cent. owing to the increased perimeter.

Turning to the price per foot cube, it follows that if it is a 1s. in the case of Fig. A it must be 25 per cent. more or 1s. 3d. in the case of Fig. B. As a result of further investigation on similar lines we realise that walls, roofs and floors do not necessarily vary in proportion to the cubical contents, seldom vary proportionately one to another, and except in the cases of reinforced concrete that the prices of walls, roofs and floors likewise vary.

Supposing, however, in the example given a store underneath was not required, but just an open structure supporting the tanks. Would the architect have cubed up the air space underneath his tank to arrive at the steelwork he required to support them? Surely not.

He would have calculated the amount of steelwork or of reinforced concrete that he required, and would have priced these quantities out at the proper rates for the materials and labour involved. Again, whilst in accurate estimating we, like the architect, rely on measurement and costing of the labour, material, etc., required, in approximate estimating by these rough methods, apparently, we depart from fundamental principles. Just because in the preliminary stages a client starts talking to the architect about the accommodation he requires in terms of air space, we reduce our record of works executed to a price per ft. cube of air space, and treat our new approximate estimates in this "airy" manner.

Item Prices.

There remains a further point to consider in using this method, viz., the necessity to compare item prices. We have seen that the client does not pay for air space, but for the materials necessary to enclose that space as he wishes it enclosed, or to give him the accommodation required.

How, then, can we dissect the cost of material used rapidly from a price per ft. cube of air space? It cannot be done, yet, from the examination of the system of proportional values later; we shall realise how the cost of the leading items in a building govern the total cost of that building, covering as they do materials, labour, transport, overhead and special charges and profit, and how these unit prices vary on practically every job. Very often, approximate estimates are wanted in a hurry, and those who will give them in this way will assume the leading prices as the same, or add or deduct a percentage to meet the new case. But this opens up a great liability to error.

Whenever possible, prices of materials delivered to site should be obtained. The amount and quality of the labour available should be found out, together with the effect of transport and any special features in relation to position or restrictions of the site. From these particulars, leading item prices should be built up, as has been previously described, and compared with the leading item prices of the record used.

(To be continued.)

National Housing and Town Planning Council.

The National Housing and Town Planning Council has arranged to hold, as in former years, a series of Regional Conferences with local authorities in Lancashire, Cheshire and North Wales, to consider the administration of the 1923, 1924 and 1925 Housing Acts, and the 1925 Town Planning Act, with especial reference to (1) The Administration of the financial provisions of the Housing Acts of 1923 and 1924; (2) the situation with reference to the use of alternative methods of construction and the supply of building materials; (3) the maintenance of good standards of planning, design, construction and amenities; (4) the amelioration of the slum area and type of building in re-housing schemes; (5) the rural housing problem; (6) the administration of the Town Planning Act, 1925; (7) regional planning; (8) future policy with reference to the planning of built-up areas in existing towns.

By permission of the Lord Mayor of Manchester, who has consented to be present at the opening and to welcome the delegates, the meetings will be held in the Lord Mayor's parlour, Town Hall, Manchester, on Tuesday, May 4, at 11 a.m. to 1 p.m., and 2.30 p.m. to 5 p.m. Full particulars may be obtained on application at the Council's Offices, 41, Russell-square, W.C.1.

Town Planning.

For the month ended March 31 the following town planning schemes (Stage III) for the undermentioned local authorities have been approved by the Minister: Essex, Loughton U.D.C.; Surrey, Croydon T.C. (North). Preliminary Statements (Stage II) in connection with the town planning schemes of the undermentioned local authorities have been approved by the Minister:—Middlesex, Kingsbury U.D.C.; Surrey, Sutton U.D.C. Resolutions (Stage I) deciding to prepare town planning schemes have been received from the undermentioned local authorities, and, where necessary, approved or authorised by the Minister:—Middlesex, Hendon R.D.C. (second area); Aberystwyth T.C.; Staffordshire, Wolstanton United U.D.C.; Cardiganshire,

St. Stephen's Church Hall and Institute, Bush Hill Park, N.

The formal opening and dedication of St. Stephen's Church Hall and Institute by the Right Rev. the Lord Bishop of Willesden took place on April 10. The contract, amounting to £8,977, has been carried out by Messrs. W. H. T. Kelland & Sons, Ltd., Stoke Newington. The architects are Messrs. George Baines & Son, FF.R.I.B.A.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting!—ED.

Building Work on Commission.

[REPLY TO "BUILDER," APRIL 9.]

SIR,—This work really amounts to day work; the builder buys material and supplies labour, charging 12 per cent. on wages and a further 5 per cent. on total, including materials. To be on the safe side, one should render account weekly, bringing forward amounts received and balance due. The accounts should be very explicit, setting forth copy of invoices and time sheets for men. If this is not done it might be difficult to show expenditure. There should be some agreement between the parties as to this arrangement.

G. W. H.

"Boasted for Carver."

[REPLY TO "CURIOUS," APRIL 9.]

"Boasting in for carver" means preparing the stone so that as much time as possible is saved on carving. When the expression is stipulated by the architect, it is desirable to obtain either a drawing, showing outline and contour, or a model, so that the material can be shaped by the mason as far as his ability will allow. Briefly, working to a definite outline and contour.

FRANK MCGINNITY.

SIR,—Boasted work is chiselling on stone in which the marks of the tool run in parallel lines. Each successive stroke is made beneath the last over the whole length of the stone for the carver, the other parts of the work probably being left rubbed for finish.

G. W. H.

Pricing Question.

[REPLY TO "X. X.," APRIL 9.]

SIR,—My usual procedure is to insert a paragraph in the bill of quantities as follows:—"Should any discrepancy be found in the moneying out or the totals in the contractor's priced bill of quantities, this shall not affect the amount of the tender, but shall be treated as a percentage addition or deduction upon the prices, exclusive of provisional amounts, for the purpose of pricing any variations." I suggest that this would be the correct method for X. X. to adopt; the error in the summary should be treated as a percentage *addition* to all except P.C. items. My experience is exactly the opposite to that of X. X. I found that a total amounting to £1,400 had been carried to the summary as £1,300. I notified the builder of the discrepancy and he called upon me and protested against its being treated as a percentage deduction. Fortunately, the contract had not been signed, and had the architect agreed to the request to increase the tender by £100 the price would have amounted to more than the tender immediately above. The arithmetic of all bills of quantities should be checked before a tender is accepted.

CHARTERED SURVEYOR.

SIR,—If the bill of quantities was looked upon to form more or less a basis for schedule rates, the mistake would have little or no value, as the adjustment on final measurement would right itself. But if it represented a firm price, with only omissions and variations, due credit for the £100 overcharge would have to be given; otherwise it would hardly be fair to the client, because if the mistake had been on the other side a refund would probably have been asked for.

G. W. H.

SIR,—The point raised by your correspondent is extremely interesting. In my own opinion, if the tender was competitive the lump sum is the important basis of the contract, upon which the priced schedule, generally submitted after the signing of the contract, should agree in sum total. It would therefore appear that he is entitled to the £100 in question, although it was the result of a mistake, and that the schedule should be referred back to make in agreement, so that all variations may be adjusted. If, on the contrary, the tender was not competitive, I consider that the debatable error should be deducted since it is merely a question of the contractor having based an estimate on a margin of profit which he considers to be sufficient, and not a question of the owner having obtained the lowest price in an open market.

A. B. C.

Lock-up Garage.

[REPLY TO H. W. PEXTON, APRIL 16.]

SIR,—A very cheap and efficient garage, or a series of garages, can be built by the introduction of "dovetail" steel fabric used in conjunction with very light H.T. L section bars, and by forming walls of concrete, or roofs as the case may be. The roof can be designed for lantern lights or flat lights glazed with patent glazing (without putty) which lasts practically for all time, and gives no trouble. There is also a firm which makes an all-steel garage very cheap.

G. W. H.

Floor Covering.

[REPLY TO G. B. ADDIS, APRIL 16.]

SIR,—If your querist would write to one of the many advertisers in *The Builder* who are flooring specialists, they would be pleased to advise and give costs or estimates. A visit to the Building Exhibition would no doubt repay querist; rubber and composition floors are both shown.

G. W. H.

Dance Hall.

[REPLY TO "R. L.," APRIL 16.]

SIR,—It is usual to allow 8 to 10 ft. super per person. In addition, the crush room, supper room and foyer should be allowed.

G. W. H.

Fixing Portable Copper.

SIR,—I have just finished a storeroom. I also agreed to fix a portable copper in a corner of the room (which is situated at the back of the house), with concrete floor and iron roof. I am now told I must fit in two 4 in. by 3 in. steel girders across the angle at the base of the iron flue pipe, and also a York stone with a circular hole for the flue pipe to go through, and to rest the girders on this structure. I have to carry up 9 in. brickwork to enclose the pipe. I am told this is the surveyor's order. Am I right in doing this work? I have seen portable coppers in a stackyard used for boiling food for pigs within 20 ft. of a straw stack.

W.

Steelwork Formula.

SIR,—Would one of your readers give me a formula or method of calculating the various properties (*i.e.*, moments of inertia, modulus of section and radii gyration) for two equal or unequal angles, back to back, and when spaced at varying distances apart, say, ½ in. to ¾ in., ⊤⊤ as used in steel roof trusses? Also to what extent does the centre of spacer on the strut effect the strength of same?

E. F.

Manufacture of Putty.

SIR,—Can you recommend to me any treatise dealing with the technique of the manufacture of putty?

J. E. T.

Fire Cracking in Cement Finish.

SIR,—Some Melbourne clients of ours write to us to ask if there is any known method, formula, or material for preventing fire-cracking in cement finish, or obliterating cracks already appearing in work that has been done some time. Could you inform us of any material which complies with the particulars mentioned?

MCE.

Corrugated Sheets for Roofing.

Replies to this inquiry have been posted direct.

THE WEEK IN PARLIAMENT

WESTMINSTER, *Wednesday.*

Subsidy Houses and Speculative Builders.

Mr. Day asked the Minister of Health if he was aware that numbers of subsidy houses in various districts were remaining unoccupied with a view to their sale by speculative builders; and, in view of the housing needs of the country, would he consider the advisability of withdrawing the subsidy in respect of such houses not occupied within a certain time after completion.

Sir K. Wood said that the Minister had no doubt that from time to time there were a certain number of houses standing unoccupied pending sale; but he did not think that there was ground for such general action as Mr. Day contemplated.

Continuance of the Subsidy.

Mr. Chamberlain informed Mr. Bennett that the question as to modification of housing subsidy would be determined in accordance with the terms of Section 5 of the Housing (Financial Provisions) Act, 1924. This section provided that the Minister of Health and the Scottish Board of Health should, after October 1 next, take this matter into consideration, and should consult with such associations of local authorities as appeared to be concerned and with any local authority with whom consultation appeared to be desirable.

Slum Clearance Schemes.

Mr. N. Chamberlain informed Mr. T. Thomson that since 1919, 73 local authorities had submitted schemes for dealing with slum areas, and he had information of 33 other local authorities who had schemes in preparation or under consideration. Eighty-five schemes relating to 67 local authorities had been confirmed.

Houses Completed.

Mr. N. Chamberlain informed Mr. T. Thomson that up to April 1 238,219 houses had been completed in England and Wales under the 1919 and subsequent Housing Acts, by local authorities, and 153,289 by private enterprise. The numbers under construction on the 1st inst. were 45,920 by local authorities and 35,088 by private enterprise.

Scottish Steel Houses.

Mr. Hardie asked what was the price paid for land to erect steel houses upon in the Shettleston district of Glasgow; and what was the rateable value.

Sir J. Gilmour said that the price paid for the site for steel houses at Shettleston was £10,425, and that the rateable value of the land as appearing in the Valuation Roll was £133.

Mr. Hardie asked whether the extra costs of foundations for steel houses in the Garngad area were to be borne by the Government or by the Second National Scottish Housing Company.

Sir J. Gilmour said that the extra costs of foundations for the steel houses in the Garngad area would be borne by the Second Scottish National Housing Company (Housing Trust), Limited.

Imported Materials.

Sir A. Holbrook asked the President of the Board of Trade whether he was aware that bricks of foreign manufacture imported into this country rose from a total value of £18,000 in 1923 to more than £450,000 in 1925; that in the same period tiles imported rose in value from £93,000 to £430,000, cement from £395,000 to £540,000, and slate imports from £1,000 in 1920 to £85,000 in the last quarter alone of 1925; and whether he would take some action to safeguard the position of workers in English brickfields and tile manufactories.

Sir B. Chadwick, who replied, said that the figures quoted were, he understood, correct, except that the imports of slates for roofing in 1920 were valued at £46,000, and not at £1,000. As to the last part, he could only refer Sir A. Holbrook to previous replies to questions.

In answer to Sir H. Croft, Sir B. Chadwick said that the import of bricks was considerable and had been increasing, but it was relatively small compared with our whole production, which was about twice what it was before the war.

Lilleshall Abbey.

Viscount Sandon asked the Under Secretary of State for the Home Department, as representing the First Commissioner of Works, whether any answer had been returned to the communication sent by the Shropshire Archæological Society in February relative to the state of various abbeys in that county; and whether the department purposed taking immediate steps to protect such ancient monuments, such as Lilleshall and Haughmond Abbeys, which were of historic interest, and were rapidly approaching a state which would place them beyond repair.

Captain Hacking said that a communication was received from the Society in February in regard to Lilleshall Abbey, and the Office of Works had been in communication with the owner on the subject. The monuments in question were protected to the extent of being scheduled, and perhaps the most important, Buildwas Abbey, had recently been taken into the Department's custody.

Building By-Laws.

Mr. Chamberlain informed Mr. Fenly that 507 rural authorities had adopted building by-laws, and 140 had no such by-laws in operation.

Scottish National Housing Co.

Lady Astor asked the Secretary for Scotland how many acres of land had been purchased up to the present time on which steel houses were to be built by the Scottish National Housing Co.; what was the total price of the land; whether all the capital necessary for the operations of the Company had been supplied by the Exchequer; and if the one share held by each member of the executive committee was paid for by the holder?

Sir J. Gilmour said that to date approximately 109 acres had been purchased and 34 acres feued by the Second Scottish National Housing Co. (Housing Trust), Ltd. He was unable to state the total price of the land purchased, as the price of some of the sites was to be fixed by the Chief Valuer for Scotland, who had not yet made his award. The capital of the Company was being supplied partly by loans on mortgage from the Public Works Loan Commissioners, partly by borrowing on debentures or other security from the Scottish Board of Health, and partly by shares paid for by that Board. The answer to the last part of the question was in the negative.

"THE BUILDER" CONSTRUCTIONAL PROBLEM COMPETITION

This Competition is limited to students in architecture and building classes or schools, assistants who have not passed the Final of the R.I.B.A., and others engaged in architecture or building, not over 25 years of age. A prize of £1 will be awarded each week for a satisfactory solution.

Drawings to be on paper, tracing paper, or linen, not exceeding 30 in. by 22 in. (Imperial size), and should be in ink, with bold lines and printing, as the drawings, if reproduced, are much reduced in size. The drawings can be sent folded in a large envelope or rolled. Competitors must put their name and address on each drawing. Those who wish to have their drawings, &c., returned must enclose a stamped and addressed adhesive label.

Answers, addressed to the Editor and marked "Problem 16," to be sent in not later than first post, May 3. The Editor's decision to be final.

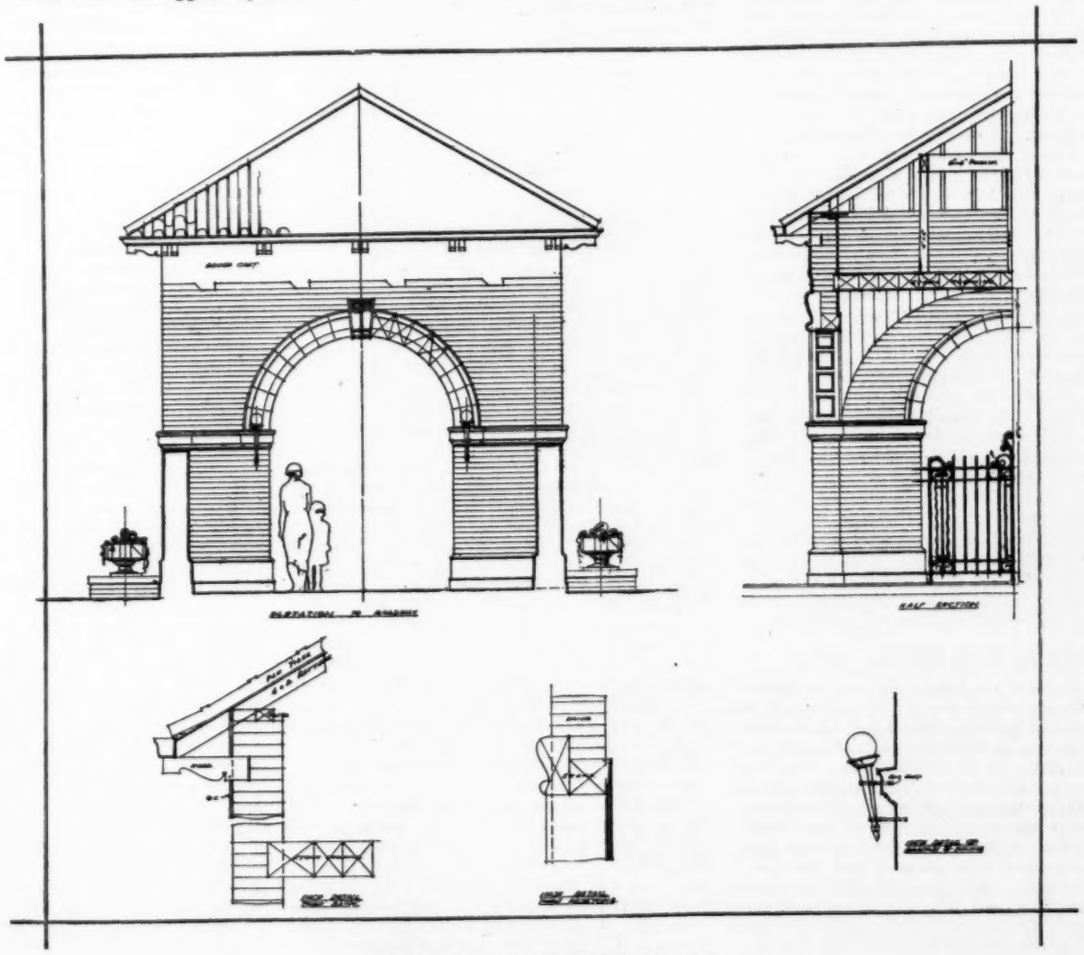
PROBLEM No. 13.

The prize of £1 is not awarded this week, the answers submitted not being of sufficient merit. The best received was by Mr. H. Broadwater; and others who sent in fair solutions were Messrs. J. Foster, S. J. Lowman, and H. Connolly. Some of the competitors appeared to think it necessary to pass from one part of a private garden to another part over a private road, 15 ft. wide, by means of a brick or stone-covered way perched on top of a brick or stone arch and approached by a flight of steps on either side, completely obstructing the view from one part of the garden to the other through the archway.

The published drawing has been prepared as a possible answer to the problem. Built in brick and stone with pantile roof, it has a groined ceiling with archways of sufficient clearance for vehicles and gates to each garden archway.

PROBLEM No. 16.

A building 60 ft. wide is to have steel roof trusses, supported on 14 in. walls, with piers if necessary, the trusses being placed 10 ft. apart and covered with purlins, boarding and slates. Skylights are to be provided, or the upper half of one side of the roof covering can be glass. One wall is to be a parapet with gutter and the other wall to have an eaves gutter. Draw to a scale of 4 ft. to 1 in. a section through the building showing the roof truss in elevation, with details of the joints to a scale of 1½ in. to the foot. Also show a stress diagram and table showing the amount of stress upon each member in lbs.



Suggestion for Problem No. 13.

THE BUILDING TRADE

SOME OBSERVATIONS ON WORKMEN'S COMPENSATION IN CONNECTION WITH THE AMENDING ACT, 1923.—XIV

In our last article we were considering the redemption of weekly payments by lump-sum agreements and the registration of such agreements. The cases we had considered related to instances where liability had been admitted, not necessarily by any step having been taken to ascertain the amount of the weekly payments, but at any rate by the payment of some sum in respect of the right of the workman injured by accident to receive compensation, a right which, as the Lord Chancellor put it in Russell *v.* Rudd, springs *ipso facto* from the injury to the workman. There may, however, be cases in which the employer disputes any liability and yet for some reason decides to make some payment, and section 21 of the amending Act deals with such cases. In the consolidating Act, 1925, which comes into force on May 1 next, section 21 of the amending Act is incorporated in section 24, and section 25, subsections (3) and (4), and agreements which under the amending Act were described as "agreements compromising disputed claims" are there referred to as "Composition agreements."

Section 21 is as follows: "Where, after the commencement of this Act the person against whom a claim for compensation is made under the principal Act disputes his liability to pay compensation but makes an agreement whereby, in consideration of the payment of a lump sum, the claim for such compensation purports to be precluded, the agreement shall be sent for registration in like manner and subject to the like conditions as in the case of an agreement for redemption of the weekly payment by a lump sum, and unless and until the agreement is registered in accordance with those provisions the agreement shall not, nor shall the payment of any sum payable thereunder, exempt the employer from liability under the principal Act. Provided that in determining whether or not the lump sum agreed to be paid as aforesaid is adequate the registrar, or if the matter is referred to the judge, the judge shall have regard to the question whether or not liability to pay compensation under the principal Act is doubtful."

This section appears to add a necessary provision to the Act, as it is apparent that the supervision over lump-sum payments provided by the amending Act might have been evaded by paying down lump sums with a denial of liability, but it is doubtful whether such payments will now be made, as the inquiry into the agreement provided for in this section would involve the decision of one of the main questions in liability cases—whether the case fell within the Act.

We think we have now dealt with all the amendments introduced into the principal Act by the Act of 1923, but there are some provisions of a special character independent of the principal Act which must now be referred to.

Liability to Pay Poor Law Relief.

Section 23 of the amending Act [section 41 of the Consolidating Act, 1925] deals with the repayment of poor law relief, and we must set out the section in order that our comments may be intelligible. It is as follows: "Where an authority has granted out-door relief to a person pending the settlement of his claim to compensation under the principal Act or any scheme certified thereunder, and either (*a*) such relief would not have been granted had the person then received or been in receipt of compensation under the principal Act; or (*b*) such relief is in excess of the amount which would have been granted had the person then received or been in receipt of such compensation; the authority may give notice of the relief so provided to the person liable to pay the compensation, and if such notice is given the person so liable shall, on demand, and on being furnished with a certificate by the authority of the amount of the relief so provided or of the amount of the excess, as the case may be, repay to the authority, up to the amount which he is liable to pay as compensation, less such part (if any) of that amount as he has already duly paid at the time of receiving the notice aforesaid, and the receipt of the authority shall, up to the amount of the repayment, be a full and valid discharge to that person in respect of the compensation payable by him to the person relieved. Provided that if the person so liable to pay compensation gives to the authority by which such notice as aforesaid is given, notice that he intends to pay, or that he has paid compensation, he shall not be under any obligation to make any repayment in respect of any relief provided after the payment of the compensation or after the time at which the notice so given is received by the authority, whichever is the later."

So far as we are aware no decision has been given by the courts on this section, but its terms are somewhat obscure. In the first place, it must be observed that the words, "to a person pending the settlement of his claim," will include dependents. The difficulty in the section, however, is to reconcile the above words—"pending the settlement" of the claim—with the words which follow: "The person liable to pay the compensation." If the person liable to pay compensation admits his liability to the authority under the proviso there is not much difficulty, except in understanding why the liability to make payment in respect of relief is made to continue up to the date of the payment of the compensation or the time at which the notice of intention to pay was given to the authority, "whichever is the later." Presumably the intention is to secure an admission of liability and to date the cessation of liability from that.

But presuming the person from whom compensation is claimed does not and cannot admit liability, for there may be a complicated question of law requiring decision by the arbitrator or the Courts, what is the position then? The Poor Law Authority will pay relief "pending the settlement of the claim," and shall give notice to the person "liable" to pay compensation, and such person "shall on demand" repay to the authority up to the amount he is liable to pay as compensation.

In this latter connection the expression "liable to pay compensation" must apparently mean either admittedly liable or found liable by process of law, and the existence of a mere claim will not entitle the authority to make the demand, and this reading of the section receives support from the fact that no machinery is provided by the section for the recovery of a contribution on liability being disproved.

It may be doubted whether this introduction of poor law relief will be for the benefit of applicants for compensation, especially where they are dependents. Out-door relief varies in different localities, and is given on a more generous scale than compensation under the Workmen's Compensation Acts, but the payments under the latter made to widows and children in the form of a lump sum have under the administration of the county courts proved invaluable, enabling the widow to start a small business, and affording some provision for the children, but under this section there is great risk that before any claim is settled the sums due will be considerably diminished by being claimed for poor law relief administered in mere weekly payments.

Aircraft.

Section 27 of the Amending Act, 1923 [Section 36 of the Consolidating Act, 1925], enables the Secretary of State by Order to extend the provisions of the principal Act as amended by the Act of 1923, subject to modifications and exceptions, to such persons being "workmen" within the meaning of the principal Act employed as pilot, commander, navigator, or member of the crew of any aircraft registered in Great Britain and Northern Ireland, the owner of which resides or has his principal place of business in Great Britain, when outside Great Britain in such circumstances as may be specified in the order. The Order has to be laid before both Houses of Parliament.

Factory Legislation.

A curious feature of the Workmen's Compensation Act, 1923, was the introduction in Section 28 and 29, of two pieces of factory legislation relating to notification of accidents and first aid and ambulance and safety orders in factories. These sections are not incorporated in the Consolidating Workmen's Compensation Act of 1925, and appear to have no special features relating to compensation to workmen, and therefore we do not notice them here, but they afford one of the many examples of the kind of legislation which complicates the Statute law not only for laymen but also for lawyers, for legislation relating to factories contained in an Act entitled "The Workmen's Compensation Act," may well be overlooked by persons studying either branch of the law. These sections are unrepealed by the Workmen's Compensation Act, 1925, and still remain on the Statute Book, and a note should be made of this fact by those studying the law relating to factories.

Conclusion.

Our task in writing these articles has been somewhat complicated by the introduction of the Consolidating Act since the first articles of the series were written. The scheme of the articles has been only to refer to those sections of the principal Act which were the subject of amendment by the Act of 1923, and the task has involved some complication even apart from the Consolidating Act, 1925, which will become *the* Workmen's Compensation Act on May 1 next. Except for some slight drafting alterations the whole of the matter contained in the principal Act and the amending Act of 1923 has simply been incorporated in the consolidating Act of 1925, but the arrangement of the subject in the Act of 1925 is clearer than it was in the principal Act of 1906. All our observations will apply equally to the Consolidating Act and we have all through referred our readers to the corresponding sections in that Act. But as the subject has been rearranged in the Act of 1925 we may also refer to the Guide we furnished, in our fourth article, to the new Act, where its sections are set out in numerical order with a reference to the corresponding sections in both the principal Act of 1906 and the amending Act of 1923. We trust that that Guide may prove useful to those having occasion to consult the new Act, for the sections and subject matter are so differently grouped that without some such assistance those conversant with the provisions of the former Acts will find it difficult to trace them in the new Act and may at first feel a little lost. The case law, as well as our comments thereon, as we have said above, apply to the new Act, as no drafting alteration has very wisely been made which will upset any of the cases on the law as it has been decided in reference to the Acts which on May 1 next will be repealed, and the repeal of those Acts in the new Statute, as we have explained in the course of these articles, leaves the law as it was when the amending Act came into force on January 1, 1924, for by section 50, subsection (2), the repealed enactments are still to apply to cases where the accident happened before January 1, 1924.

DILAPIDATIONS AND WASTE.—XV

By W. T. CRESWELL,
Lic.R.I.B.A.; Associate (late Fellow) Surveyors' Institution; F.R.San.I.; Barrister-at-Law.

SOME USEFUL POINTS IN CONCLUSION.

We have previously noticed the manner in which the necessity for a dilapidations survey may arise both during or just before the end of the term of the lease. A similar necessity arises when a prospective purchaser or lessee proposes to purchase a lease or to lease premises.

In all cases it is usual to appoint an architect or surveyor to make the survey; and his first duty before making the inspection is to fully inform himself as to what is included in the repairing covenants and the lease; and as to any local customs which exist, in order that he may ascertain how far all these have been complied with, and give them place in his schedule of dilapidations should there be any defaults. The object of his schedule is to state what is required so as to ensure that the premises will be left in a proper state of repair as indicated by the repairing covenants and local custom.

The architect or surveyor may be employed to act for both lessor and lessee if they mutually agree to his employment beforehand. In exercising the powers thus conferred upon him, he has to remember his responsibility to both parties as quasi-arbitrator, and although not acting *judicially* between the parties, he is obliged to use his skill and knowledge as a valuer or appraiser in estimating the cost of the repairs required, and therefore must be impartial. A person appointed to finally adjust accounts is not invested with the functions of an arbitrator, and if the adjustment is disputed the aggrieved party is free to seek a remedy in the court.

Right of Entry to View State of Repair.

It must be remembered that unless there is a distinct stipulation in the lease giving the lessor or his agents an express right to enter to view or do repairs, these persons have no legal right to enter premises during the term for these purposes; and if they did so, the lessor would be regarded as a trespasser. However, in all cases it is well to obtain the written or oral leave of the lessee before entering so as to avoid inconvenience to him. In the case of agricultural holdings under the Agricultural Holdings Act, 1923, the landlord or his agent is entitled to enter and view the state of repair of the premises at all reasonable times; and when houses come within the provisions of the Housing, Town-Planning, etc., Acts, 1909-23, to enter after giving twenty-four hours' notice to the tenants.

When there is a stipulation in the lease that the lessor may enter so many times in the year to view the premises, it appears that he may select any days in the year he thinks fit; but if the stipulation gives the right of entry "at convenient times," yet, unless the lessor has given notice of his intention to view, the stipulation is not broken if the lessee excludes the lessor or his agents from some of the rooms.

Settlement of Claim.

A customary practice is for the lessee to agree to a money payment to the lessor in settlement of all claims under the repairing covenants instead of executing the repairs himself; and this arrangement should, if agreed upon, be embodied in a formal release at the end of the term. What the money payment is to be depends entirely on the valuation of the dilapidations made by the architect or surveyor appointed; and on his sound judgment many possible disputes will be avoided. Also when a second architect or surveyor is acting on behalf of the lessee—*i.e.*, one for each of the parties—those two will, as a general rule, be able to determine between them the amount payable. A good knowledge on their part of the law, as to the construction of covenants to repair and leave in repair, such as we have tried to give in a condensed form in the previous articles, will greatly assist a good settlement. It is a bad practice to make an exorbitant claim and then have to climb down.

The Schedule.

If any repairs are needed, a notice to repair should be served on the lessee, to which a schedule of dilapidations should be attached, giving in detail all the repairs required, together with the estimated cost of carrying out the whole. It should not be worded in the form of an ordinary specification for works to be done, nor should it attempt to describe the mode of executing the work. Finally, it should be recognised that where any intricacies or obvious difficulties are foreseen or probable, it is to the interests of the employer that an architect or surveyor who specialises and has had experience in the particular work should be employed, as the drawing up of the schedule in these circumstances is an intricate matter requiring experience.

If the lease has not yet expired and is continuing, an "interim" schedule is required, and such schedule should only take into account the amount of injury the reversion has sustained owing to the failure of the lessee to comply with the repairing covenants.

The Inspection.

On the inspection of premises each building should be dealt with as an entity; and the survey of each should be carried out in this order:—

(1) Externally. (*a*) The roofs. (*b*) Faces of the building.

(2) Internally. Beginning on top floor and taking the rooms from left to right, regardless of the nature of the room or compartment, down to the basement floor.

(3) Outbuildings.

(4) Yards and pavings.

(5) Drains, etc.

In all cases maintaining the same direction, left to right, as from the door of a compartment or the point of commencement.

Stamping the Schedule.

When an architect or surveyor is acting for both parties, the schedule and estimate should have an appraisement stamp. The Stamp Act, 1891, enacted that an appraisement or valuation of any property, or of any interest therein, or of the annual value thereof, or of any dilapidations, or of any repairs wanted, or of the materials and labour used, or to be used, in any building or of any artificer's work whatever, is liable to stamp duty.

When, however, the appraisement is not made on behalf of both parties, but only for the private information of one party, it need not be stamped.

In Atkinson *v.* Fell (1816), 5 M & S, 240, Lord Ellenborough held that a valuation not obligatory upon the parties interested, nor in itself intrinsically evidence between them, was not a valuation requiring the maker thereof to hold a licence. See also Jackson *v.* Shepherd (1834), 2 C & M, 361.

The ruling in Atkinson *v.* Fell (*supra*) governs the stamp duty; for under Schedule I. of the Stamps Act, 1891, an appraisement or valuation made for and for the information of one party only, and not being in any manner obligatory as between the parties, either by agreement or operation of law, is exempt from stamp duty.

The Architect's and Surveyor's Fees.

All charges of and incidental to a survey and appraisement should be agreed beforehand between the parties and the person or persons employed. The decision of the valuer may be reviewed by the court.

In Hammond *v.* Waterton (1890), 62 L. T. 808, it was held that when between two parties there is only an agreement for fixing the amount to which one of the parties is entitled, even if the adjustment is termed therein "arbitration," there is only an agreement for an appraisement and not for an arbitration. A person cannot recover, at law, for work done as an appraiser unless he be licensed. See Palk *v.* Force (1848), 12 Q.B. 666. It would, however, appear that he could recover monies actually expended by him, on behalf of his employer, upon such valuation. See Smith *v.* Lindo (1858), 4 C. B. (N. S.) 395.

Now a person who has not the known character of an appraiser does not become such by making a valuation in a single instance. See Atkinson *v.* Fell (*supra*). But the provision as to licences being necessary applies not only to those regularly exercising the business or occupation of a valuer or appraiser, but also to all those who make an appraisement even in one single instance. That is to say, that if a person makes one appraisement he must take out a licence. In Palk *v.* Force (*supra*) the defendant pleaded that the plaintiff's work consisted of an appraisement of personal property, which the plaintiff appraised in expectation of reward to be paid by the defendant to him, but that the plaintiff was not duly licensed according to Section 4 of the Appraisers' Licences Act, 1806. It was held that the plea that the plaintiff did not hold an appraiser's licence at the time was sufficient to wipe out the defendant's liability to pay the fees.

The Scale of Charges.

Under Clause 15 of the Scale of Professional Charges issued by the Royal Institute of British Architects, the charge for estimating dilapidations and furnishing or checking a schedule of the same is five guineas per cent. on the sum agreed, the minimum fee being £5 5s. For negotiating settlement of claim, etc., the charge is by time; and when one surveyor acts between both parties the minimum charge is the scale and a half, payment being divisible between them

A STAFF DINNER.

The staff dinner of Messrs. F. McNeill & Co., Ltd., the well-known roofing felt manufacturers, was held in the old grill room at Olympia last Saturday. The chairman of the Company, Mr. C. W. R. Pantlin, was in the chair.

The toast of "The Firm" was proposed by Colonel Field, and replied to by Mr. C. W. R. Pantlin in a humorous speech.

Responding to the toast of "The Guests," proposed by Sir Joseph Napier, Mr. J. Raymond said it gave him pleasure to meet so many prominent members of the trade. Speaking of the optimists who were sure of the clouds rolling by sooner or later, he said they were a trifle hazy as to where the new landmarks were to be found by the time the present period of change and drift had given way to an era of a re-established and settled industry. Industry, he said, was most truly safeguarded by common sense, and who was there among those present who did not believe in his heart that before long the common sense of the Briton would prevail throughout the land? Referring to the number of years Messrs. McNeill had been in existence, he said the firm bore the antiquity of a century all but completed with the juvenility of a "one-year-old." The firm was still all-British, and was engaged in holding aloft the banner for an important class of British manufacturer against a strong foreign invasion. Nothing could be more appropriate and inspiring in this connection than the firm's trade mark, the Lion, with which everyone was familiar.

Other speakers were Sir Joseph Napier, Mr. J. H. Louden, and Mr. W. E. Evans. Among the guests were Mr. F. T. Huntingdon, Mr. Dudley Bartlett, Mr. James Whitby (late President of the Metal Trades Association), and Mr. R. H. Treviling.

Bowness Bay Extension.

A scheme, estimated to cost about £13,000, has been formulated to extend the promenade on the shore of Lake Windermere at Bowness Bay.

NEW BUILDINGS IN LONDON

Acton.—Approval has been given to plans for additions to the factory at the Park Royal Aerodrome, W.3, for Messrs. Renault, Ltd., motor-car manufacturers, Fulham, S.W.

Bishopsgate.—The Portland stone frontage for the headquarters in Bishopsgate and St. Helen's-place, E.C.3, of the Hudson's Bay Co. is now being commenced. Messrs. Dove Bros., Ltd., builders, Cloudesley-place, Islington, N.1; Messrs. Dorman, Long & Co., Ltd., steelwork, 3, Central Buildings, Westminster, S.W.1; Messrs. Crittall Manufacturing Co., Ltd., metal windows, 246, High Holborn, W.C.1; Messrs. Express Lift Co., Ltd., lifts, Greycoat-street Works, S.W.1; Messrs. Mewès & Davis, architects, 22, Conduit-street, W.1; Dr. Oscar Faber, consulting engineer, 37, Duke-street, St. James's, S.W.1.

Catford.—Approval has been given to a proposal to carry out alterations and improvements, including the provision of a dance hall, at the Dartmouth Hotel, Lalcham-road, S.E.6, for the proprietor, M. Gianella.

Christopher-street.—New offices, to be called Maypole House, are to be built in Christopher-street, Wilson-street, and Finsbury-square. E.C.2, for the Maypole Dairy Co., Ltd. Messrs. Prestige & Co., Ltd., builders, Cambridge Wharf, Grosvenor-road, S.W.1; Messrs. Patent Impervious Stone Co., Ltd., 97, Lea Bridge-road, E.10. Mr. W. A. Lewis, A.R.I.B.A., architect, 11, Finsbury-square, E.C.2.

City-road.—Work is about to commence upon the reinstatement, after fire, of the premises at 14, City-road, E.C., owned by Messrs. Nathaniel Berry & Co., pianoforte manufacturers.

Clerkenwell.—The Shoreditch B.G. has decided upon alterations and extensions to the St. Leonard's Hospital in Hoxton-street, N.1, and the Shoreditch Institution in Kingsland-road, E.2, to cost £51,028. Messrs. G. Porter & Son, Ltd., builders, Sumner-road, Peckham, S.E. Mr. F. Danby-Smith, F.R.I.B.A., architect, Parliament Mansions, Victoria-street, S.W.1.

Edmonton.—The B.G. has decided to extend the casual wards at the Old Strand Workhouse and to build on a site near Bull-lane new wards to accommodate 120 persons. Mr. J. C. S. Mummery, architect, 34, Bloomsbury-square, W.C.1.

Fleet-street.—Demolition of old buildings at the corner of Fleet-street and Whitefriars-street, E.C.4, has commenced this week, preparatory to the erection of large business premises, with showrooms on the ground floor. Messrs. Greenham, Ltd., demolition and excavation, Worton-road, Isleworth.

Gray's Inn-road.—A large corner site, at the junction of Gray's Inn-road, with Swinton-street, W.C.1, is being excavated for the erection of an office building of five floors. Messrs. St. Mary's Wharf Cartage Co., Ltd., excavators and housebreakers, South Wharf, Paddington Basin, W.2. Messrs. Griggs & Sons, builders, 100, Victoria-street. S.W.1.

Great Portland-street.—Operations are about to be put in progress upon a new building, offices and showrooms, on a site at the corner of Great Portland-street and Margaret-street, W.1. Messrs. G. E. Wallis & Sons, Ltd., builders, Broadmead House, Panton-street, S.W.1.

Haymarket.—With regard to the paragraph relating to work at No. 54, Haymarket, W.1, which appeared in our last issue, we learn that Messrs. Lane, Saville & Co., are the surveyors, of 14, Davis-street, W., and Messrs. T. P. Bennett & Son, architects.

Haymarket.—Foundations are now being constructed for the proposed Carlton Theatre on the site of 62–65, Haymarket, S.W.1, for the Carlton Theatre Co., Ltd. Messrs. Arthur Vigor, Ltd., builders, Knightsbridge, S.W.1; Messrs. Moreland, Hayne & Co., Ltd., steelwork, 80, Goswell-road, E.C.1; Messrs. Thomas Faldo & Co., Ltd., asphalters, Windsor House, Kingsway, W.C.2; Messrs. Allansons, Ltd., joinery, Watford. Mr. Frank T. Verity, F.R.I.B.A., architect, 7, Sackville-street, W.1.

Hendon.—It is proposed to build a new isolation hospital for the district, at a cost estimated at £66,850, subject to the sanction of the Ministry of Health. Mr. H. O. Knight, architect, The Burroughs, Hendon, N.W.4.

Hounslow.—Plans have been prepared for 75 residences, of villa type, upon an estate off Vicarage Farm-road. Mr. R. T. Warren, builder, 1, Shackleton-road, Southall.

Leyton.—A piece of land in High-street South and White Horse-road, E., is to be developed and plans have been approved for 25 houses. Mr. H. C. Seymour, builder.

Liverpool-street.—The building at the corner of Liverpool-street and Bishopsgate, E.C.3, is to be reinstated and converted into suites of offices. Messrs. Hall, Beddall & Co., Ltd., builders, Waterloo Bridge, S.E.1.

London Wall.—A large office building is to be erected in Blomfield-street and New Broad-street, E.C.2. Messrs. Walter Lawrence & Son, Ltd., builders, 19, Finsbury-square, E.C.2; Messrs. Moreland Hayne & Co., Ltd., steelwork, 80, Goswell-road, E.C.1; Messrs. F. J. Barnes, Ltd., Portland stone, 25, Nine Elms-lane, S.W.8. Messrs. M. E. & O. H. Collins, architects, 115, Old Broad-street, E.C.2.

Margaret-street.—A new building for use as offices and showrooms is to be erected on a vacant site in Margaret-street, Regent-street, W.1. Messrs. Sabey & Son, builders, 100, Russell-street, W.1; Mr. S. G. Godliman, excavator, 74, Princess-road, Maida Vale, N.W.6; Messrs. Fawcett Construction Co., Ltd., steelwork, 65, Victoria-street, Westminster, S.W.1.

Moorgate.—Steelwork and floors are being erected in the building at the corner of Moorgate and Lothbury, E.C.2, being reconstructed for the Caledonian Assurance Co., Ltd. Messrs. Howell J. Williams, Ltd., builders, 11, Bermondsey-street, S.E.1; Messrs. Redpath, Brown & Co., Ltd., steelwork, 3, Laurence Pountney-hill, E.C.4. Messrs. A. J. Blomfield & Driver, architects, Grocers' Hall, Princes-street, E.C.2.

Muswell-hill.—A block of residential flats is to be built by Messrs. Rookfield Garden Village, Ltd., surveyor's department, Muswell-hill, N.W.

New Burlington-street.—Alterations, including the installation of new shop fronts, &c., are to be effected at No. 12, New Burlington-street, W.1. Messrs. Perry & Perry, builders, 20, Woodstock-street, W.1. Messrs. Johnston Evans, surveyors, 31, Brook-street, W.1.

New Oxford-street.—Extensive alterations and improvements are to be made to the shop and showroom premises at the corner of New Oxford-street and Bloomsbury-street, W.C. Messrs. Mullen & Lumsden, Ltd., builders, Gresham Works, South Norwood, S.E.25

Oxford-circus.—Alterations to form a new fur saloon are to be carried out to the premises of Messrs. Louise & Co., Ltd.

Park Royal.—A new branch office is to be built in Church-road, N.W.10, for Messrs. Barclays Bank, Lombard-street, E.C.3.

Paternoster-row.—New showrooms, &c., are being erected for Messrs. Hitchcock, Williams & Co., Ltd., drapers, &c. Messrs. F. & H. F. Higgs, Ltd., builders, Station Works, Hinton-road, Herne Hill, S.E. Messrs. H. Young & Co., Ltd., steelwork, Nine Elms Ironworks, S.E. Messrs. Crittall Manufacturing Co., Ltd., metal windows, 246, High Holborn, W.C.1. Messrs. Searle & Searle, architects, Paternoster House, E.C.4.

Princes-street.—A new block of business premises, Portland stone fronted, is to be erected upon a site in Princes-street, Regent-street, W.1. Messrs. Rice & Sons, builders, 15, Stockwell-road, S.W.9. Messrs. Smith-Walker, Ltd., steelwork, 22, Tothill-street, S.W.1.

Putney.—Plans have been approved for the erection of new shops and showrooms at 33–35, High-street, for Messrs. Meakers, Ltd., outfitters, Cheapside, E.C.2. Messrs. Bomer & Gibbs, architects, 14, Riding House-street, W.1.

Regent-street.—Work is shortly to be put in hand upon the rebuilding of the shops and offices at 130, Regent-street, W.1, at the corner of Glasshouse-street, W.1. Mr. J. H. Turner, demolition, 100, Harlesden-road, N.W.10. Mr. John Murray, F.R.I.B.A., 10, Suffolk-street, S.W.1, surveyor to H.M. Office of Woods and Forests.

Regent-street.—Messrs. H. Sabey & Co., Ltd., South Wharf, Paddington Basin, W.2, have demolished the buildings upon the site of 177–183, Regent-street, W.1, in connection with a reconstruction scheme implied by a new Office of Woods and Forests lease. Messrs. Yates, Cook & Darbyshire, F.R.I.B.A., architects, 43, Great Marlborough-street, W.1.

St. Martin's-le-Grand.—Steelwork is now being executed for the large office, shops, and showrooms building in St. Martin's-le-Grand, Gresham-street and Foster-lane, E.C.2, for the St. Martin's Property Co., Ltd. Messrs. Rice & Son, builders, Stockwood-road, S.E. Messrs. Redpath, Brown & Co., Ltd., steelwork, 3, Laurence Pountney-hill, E.C.4. Messrs. Gunton & Gunton, architects, Finsbury House, Blomfield-street, E.C.2. Messrs. S. H. White & Son, consulting engineers, 9, Victoria-street, S.W.1. Messrs. Caxton Floors, Ltd., fireproof floors, Caxton House, Westminster, S.W.1.

St. Pancras.—The St. Pancras House Improvement Society are raising £50,000 to purchase the freehold of a large area in Drummond-crescent, N.W.1, and to cover the cost of building and reconditioning the property into habitable flats. Mr. A. J. Somers, architect.

Shadwell.—New warehouses are to be built in Shadwell High-road, E.1, for Messrs. Meredith & Drew, Ltd. Messrs. Hudson's, Ltd., demolition contractors, 169, Bow-road, E.3.

Spring-gardens.—A large office building is to be shortly erected on the site of 8, Spring-gardens, S.W.1. Messrs. Hampton & Sons, 20, St. James's-square, S.W.1, surveyors.

Strand.—New showrooms are to be opened by the Dolcis Shoe Co., in Norfolk House, W.C., after adaptation and refitting. Messrs. G. Parnall & Sons, Ltd., builders, Langham House, Regent-street, W.1.

Streatham.—A row of five shops is to be erected upon a site between Streatham High-road, and Barrow-road. Messrs. West & Brooks (Leyton), Ltd., builders, 59, First-avenue, Hoe-street, E.17.

Streatham.—The Crooke-Ellison estate, near Greyhound-lane, S.W., is to be developed and a large number of houses of varying sizes erected. Messrs. R. H. Miller & Son, builders, Ravenstone-street, S.W.12.

Tokenhouse-yard.—Excavating for foundations for the second section of the large rebuilding scheme for the Westminster Bank, Ltd., in Tokenhouse-yard and Lothbury, E.C.2, is now in progress. Messrs. Holloway Bros. (London), Ltd., builders, Bridge Wharf, Grosvenor-road, S.W.1. Messrs. Mewès & Davis, architects, 22, Conduit-street, W.1.

Tottenham.—A row of shops, with flats above, is to be erected, plans showing 25 single-fronted shops with showrooms. Messrs. D. Weston & Co., builders, Blackfriars House, New Bridge-street, E.C.4.

Twickenham.—A large estate near Cross Deeps is to be developed for building purposes, and houses are to be erected. Messrs. Couch & Coupland, architects and surveyors, 5, Duke-street, Richmond.

Tyndale-road.—It has been decided to erect a public hall on a portion of the Tyndale-road site, N.1. Mr. E. C. P. Monson, F.R.I.B.A., architect, Finsbury-pavement House, Moorgate, E.C.2.

Wembley.—It is proposed to build a new church, and later a hall and vicarage, to serve the new parish at Wembley Hill. Mr. G. Percy Pratt, architect, 174, High-street, Acton, W.3.

Wimbledon.—The Ernle-Erle-Drax Estate, at Wimbledon Common, S.W., is to be developed for building and residential purposes. Messrs. Hawes & Co., 6, High-street, Wimbledon, S.W., and Mr. G. W. Profeit, Charborough-park, Wareham, development agents. Mr. Alex. McKay, architect and surveyor, Ravenswood, Staines.

BUILDERS' CLERKS' BENEVOLENT INSTITUTION

The forty-sixth annual dinner of the Builders' Clerks' Benevolent Institution was held in the King's Hall, Holborn Restaurant, London, W.C., on Tuesday, April 20, Mr. F. A. Minter (the President) presiding over a gathering of 450.

The usual loyal toasts having been honoured,

The President, proposing the toast of "The Builders' Clerks' Benevolent Institution," said the present year was the Diamond Jubilee of the Institution, and never in its sixty years of life had it been without a pensioner on its books. The Institution had done a tremendous amount of good, and had meted out a great deal of comfort to those who had been unfortunate—in fact, over £23,000 had been expended in permanent pensions alone, and although those payments had been continuous, the Institution had been able to save and accumulate substantial funds. He desired to thank the manufacturers, builders' merchants, and sub-contractors for the great support and help they had given to the Institution, and he hoped they would give them opportunities of reciprocating The good results obtained were due to the magnificent efforts of the Committee of the Institution, and to the great help they had received from their friend and Secretary, Mr. John Austin.

The toast of "The Architects and Surveyors" was proposed by Mr. Ernest J. Brown, who said that without their good friends the architects and surveyors the builders and builders' clerks would be in great need indeed of a benevolent institution.

Mr. Wm. Woodward, in response, said although he was quite out of order in saying so he was delighted to see in the Presidential chair a worthy son of a worthy father.

Mr. Archie B. Colls, F.I.O.B., proposing the toast of "The Builders' Merchants," said it was particularly pleasing to him to see so many representatives of the builders' merchants present. He thanked them for their attendance, and for the very kind and generous response they had given to the President's appeal.

Responding to the toast, Mr. Ben Carter said he desired to tender his thanks for the kindly references that had been made in regard to the builders' merchants and to the building trade in general, and was delighted to hear that the President's appeal for funds had been so successful. On behalf of the builders' merchants he wished to express gratitude to the building trade and to the builders' clerks for the unfailing courtesy received at their hands. He hoped that the architects and the builders in their wisdom would adopt the slogan of the King and the Prince of Wales and "Buy British Goods." That would help the builders' merchants very materially.

The toast of "The President" was proposed by Mr. A. B. Falkner, F.I.O.B. (President of the London Master Builders' Association), who said that the President was one of the most important of the younger generation of builders rising up to carry on the traditions of a noble industry, and of those names with which the building industry had been so long honoured. They were gratified to know that their President's father was enjoying much better health, and he was sure he must be happy and proud in having such a son for his right hand.

The President having responded,

Mr. John Austin, A.C.I.S. (the Secretary), announced that the President's list amounted to over £100 above their previous record, reaching in this instance the sum of £866 0s. 6d.

Tennis Courts for Housing Schemes.

Bolton-on-Dearne U.D.C. (Engineer and Surveyor, Mr. W. H. Adams, M.Inst.M. & Cy.E.) are providing hard tennis courts in connection with their new housing scheme, these being designed to be of easy access by the tenants. The courts are being surfaced on the asphaltic limestone principle, the work being in the hands of Messrs. William Shepherd & Sons, Ltd., of Rochdale and London.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons.	Brick-layers.	U'rp'ters. Joiners.	Plas-terers.	Slaters.	Plum-bers.	Painters.	Lab'rers
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Birkenhead	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
E. Glam. (Mon. Vall.)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Grays	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/0½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/1½
Hereford	1/6	1/6	1/8	1/6	1/6	1/6	1/5	1/3½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4
Liverpool	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/3½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4½
London { 12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4
London { 12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/3½
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/1½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/1½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5	1/3½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/1½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/3½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/1½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/3½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	

(For rates of wages in the Building Trade in Scotland, see page 731.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

APRIL 26.—**Blackburn.**—PAINTING.—The inside of St. Thomas's Church, Lambeth-street. D. Entwistle 122, Lincoln-street,

APRIL 26.—**Blofield.**—COTTAGES.—Thorpe St. Andrew (20 cottages), Acle (10), Blofield (10), Halvergate (4), Great Plumstead (2), Strumpshaw (2), South Walsham (4), for the R.D.C. G. J. Skipper, architect, 7, London-street, Norwich.

APRIL 26.—**Blofield.**—COTTAGES.—Cantley (4 cottages), Freethorpe (8), Hassingham (2), Postwick (4), Reedham (8), Tunstall (2), Upton-with-Fishley (8), Lingwood (6), for the R.D.C. J. E. T. Pollard, Clerk, 17, Prince of Wales-road, Norwich.

APRIL 26.—**Cumberland.**—ALTERATIONS.—Alterations and new drainage schemes at (*a*) Corby Hill police station and house adjoining; and (*b*) Longtown police station, for the C.C. J. Forster, F.R.I.B.A., County Architect, The Courts, Carlisle.

APRIL 26.—**Great Ouseburn.**—COTTAGES.—Four cottages at Green Hammerton, on the York and Boroughbridge main road, for the R.D.C. H. S. Thompson, Clerk, Council Offices, Boroughbridge.

APRIL 26.—**Lanark (Middle Ward).**—HOUSES.—Thirty-two houses at Wester Busby, for the D.C. of the C.C. P. C. Smith, Housing and Town-Planning Department, District Offices, Hamilton.

APRIL 26.—**London.**—FIRE STATION BUILDINGS.—Erection of a fire station with flats over, stores, &c., at Friern-lane, Friern Barnet, for the U.D.C. F. P. Kindell, A.M.Inst.C.E., Engineer and Surveyor to the Council, Council Offices, The Priory, N. 11. Deposit £2.

APRIL 26.—**London.**—REPAIRS.—External renovations, repairs to roofs, and other sundry work at the Administrative Offices, &c., 61, Bartholomew-close, E.C. 1, for the Guardians of the Poor of the City of London Union. Pridmore & Groom, Architects to the Guardians, 3, Broad-street Buildings, E.C. 2.

APRIL 26.—**Newcastle-upon-Tyne.**—HOUSES.—Execution of the following brick houses on the Walker estate: (1) Walker estate No. 1 scheme, 230 houses; (2) Walker estate No. 2 scheme, 36 houses; (3) Wharrier-street, 26 houses, for the Housing Committee of the Corporation. Housing Architect, 18, Cloth Market. Deposit 3 guineas in respect of No. 1, 2 guineas in respect of Nos. 2 and 3, to the City Treasurer.

APRIL 26.—**Rackenford.**—LAKE.—Construction of an artificial lake and two tennis courts at Rackenford Manor. J. Siddalls, civil engineer, Drumore, Tiverton, Devon. Deposit £1 1s.

APRIL 26.—**Solihull.**—HOUSES.—Twelve houses, Hermitage site, and eight houses, Bentley Heath-road, for the R.D.C. C. H. Cook, clerk. Deposit £1 1s.

APRIL 26.—**Wakefield.**—STORES.—New central stores, Cliff-lane, for the West Riding C.C. West Riding Architect, County Hall, Wakefield.

APRIL 26.—**Wallasey.**—HOUSES.—Thirty-eight semi-detached houses on the Belvidere-road site, for the C.B. Borough Engineer and Surveyor. Deposit £1 1s.

APRIL 27.—**Bromley, Kent.**—HOUSES.—Eighty-four Class "A" type to be erected for Bromley R.D.C. Leonard O. Wall, Clerk to the Council, Bromley R.D.C., Park House, Beckenham-lane, Bromley, Kent. Deposit £2.

APRIL 27.—**Doncaster.**—BUILDING.—Police station at Edlington, near Doncaster, for the West Riding C.C. P. O. Platts, A.R.I.B.A., County Architect, County Hall, Wakefield.

APRIL 27.—**Dublin.**—CENTRE.—Model child welfare centre, for the C.B. McDonald & Dixon, architects, 20, Ely-place. Deposit £5 5s.

APRIL 27.—**Durham.**—SCHOOL.—Erection of the Eppleton Colliery new Council school, for the Durham C.C. Mr. F. Wiley, F.R.I.B.A., 34, Old Elvet, Durham.

APRIL 27.—**Isle of Wight.**—HOUSES.—Three pairs of houses at Gunville, for the R.D.C. R. Joliffe, architect, 6, Shooters Hill, Cowes. Deposit £2 2s.

APRIL 27.—**Maldon.**—HOUSES.—Twelve houses in pairs in Queensborough-road, Southminster; four houses in pairs near Compasses Inn, Great Totham; eight houses in pairs in Tollesbury-road, Goldhanger, for the R.D.C. W. Almond, Surveyor, 6, Market-hill.

APRIL 27.—**Orpington, Kent.**—COUNCIL OFFICES.—Erection for the Bromley R.D.C. Mr. Danby Smith, F.R.I.B.A., Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £5 in Treasury Notes.

APRIL 27.—**Tamworth.**—HOUSES.—For (*a*) 40 non-parlour type houses, in pairs; and (*b*) about 250 yds. of roadway, consisting of tar-macadam carriageway and paths, grass verges, kerbing, &c., and 1,000 ft. of 9in. and 6 in. stoneware sewers, together with manholes, gulleys, &c., on the Wiggington-road, for the B.C. A. O. Marshall, Borough Engineer and Surveyor.

✱APRIL 27.—**Thame.**—PUBLIC LAVATORY.—To be erected for the Thame U.D.C. J. T. Robinson, Surveyor to the Council, Town Hall, Thame.

APRIL 27.—**Thornley.**—EXTENSION.—Alterations, extensions and improvements to the existing school premises, for the Durham C.C. F. Wiley, F.R.I.B.A., 34, Old Elvet, Durham.

APRIL 28.—**Abertridwr.**—HOUSES.—100 houses at Graig-y-fedw, Abertridwr, for the Brynmynach Building Co., Ltd. G. Kenshole, 30, Charles-street, Cardiff.

✱APRIL 28.—**Cardiff.**—BUILDINGS.—To be erected for the Advisory and Research Department in Agriculture, at the University College of South Wales and Monmouthshire, at Cathays Park. Mr. W. D. Caroe, architect, 3, Great College-street, Westminster, S.W.1. Deposit £2 2s.

APRIL 28.—**Chiswick.**—CONVERSION WORK.—Conversion of an existing brick barn at the Riverside Recreation Ground into a two story sports pavilion, together with apartments for groundsmen. Edward Willis, F.S.I., M.Inst.C.E., Engineer and Surveyor, Chiswick, W.4.

APRIL 28.—**Churwell.**—HOUSE.—Detached house at Churwell, near Leeds. H. L. Fox, P.A.S.I., architect and chartered surveyor, 25, Bond-street, Leeds.

APRIL 28.—**Jarrow.**—PAINTING.—The outside woodwork of the Fleating Hospital, Jarrow Slake, for the Tyne Port Authority. J. English, Clerk to the Authority, 145, Pilgrim-street, Newcastle-upon-Tyne.

APRIL 28.—**Lenham.**—WALL.—Brick wall, about 170 yds. long, at Lenham Cemetery, for the P.C. A. C. Joy, clerk, Forge House.

APRIL 28.—**Llantarnam.**—HOUSES.—Eight houses on the Wesley-street site, Cwmbran, for the U.D.C. A. F. Viney, Engineer and Surveyor. Deposit £2 2s.

APRIL 28.—**London.**—BILLIARD HALL.—Erection of, at Chiswick, W.4. Hearn & Chuter, architects, Town Hall Buildings, Chiswick, W.4. Deposit £3.

APRIL 28.—**London.**—MATERNITY AND CHILD WELFARE CLINIC.—Erection of, in Wellington-road, Bow, for the Metropolitan Borough Council of Poplar. Harley Heckford, M.Inst.C.E., Borough Surveyor, Council Offices, Poplar. Deposit £3 3s.

APRIL 28.—**Mirfield.**—PAINTING.—At the Liversedge and Mirfield Joint Hospital, for the Board. John H. Linfield, Clerk, Town Hall, Cleckheaton.

APRIL 29.—**Manchester.**—SLATING.—Slating of a purifier house roof at their new Partington Works, for the T.C. J. H. Sillitoe, secretary, Gas Department.

APRIL 30.—**Bognor.**—CONVENIENCE.—Underground convenience in the south end of Waterloo-square, for the U.D.C. J. Draper, Engineer and Surveyor. Deposit £3 3s.

APRIL 30.—**Coventry.**—VARIOUS.—Erection of kitchens, bedrooms, woodwork shop, and conversion of existing rooms into class rooms, &c., at Bablatic School. Mr. Herbert W. Chattaway, architect, Trinity Churchyard, Coventry. Deposit £2 2s.

✱APRIL 30.—**Northampton.**—TENEMENT DWELLINGS.—Erection of 48 on the Balfour-road and Arthur-street site, and seven B3 houses and one shop on the Harborough-road estate, for the Northampton C.B. Town-Planning Committee. Mr. Alfred Fidler, M.Inst.C.E., Borough Engineer, Guildhall, Northampton. Deposit £5 (crossed cheques to be made payable to Northampton Corporation).

✱APRIL 30.—**Croydon.**—LAVATORY.—Lavatory accommodation to be added to the Town Hall and to the staff room at the Central Library. Borough Engineer, Town Hall, Croydon. Deposit £1 1s.

APRIL 30.—**Durham.**—PAINTING.—Internal painting of Dinsdale Park residential school, near Darlington, for the C.C. A. J. Dawson, Director of Education, Shire Hall, Durham.

APRIL 30.—**Southampton.**—SCHOOL ENLARGEMENT, &C.—Enlargement of Bordon Council School, including the erection of two new classrooms, cloak room, staff room, and manual instruction and cookery room, for the County Borough Council. A. L. Roberts, County Architect, The Castle, Winchester. Deposit 1 guinea, by cheque, payable to the Hants County Council and crossed "Lloyds Bank, Ltd., Capital & Counties Branch, Winchester."

APRIL 30.—**Upholland.**—HOUSING.—Two blocks of four houses on the Newgate housing site, for the U.D.C. H. Hunt, clerk. Deposit £1 1s.

MAY 1.—**Abersychan.**—HOUSES.—104 parlour-type houses on the Penygarn housing site, for the U.D.C. O. P. Bevan, architect, Station-road, Bargoed. Deposit £2 2s.

MAY 1.—**Chapel-en-le-Frith.**—HOUSES.—Twelve non-parlour houses at Green-lane, Chinley, for the R.D.C. T. Dinsdale, Inspector and Surveyor. Deposit £2 2s.

✱MAY 1.—**Chatham.**—Extensions to the Medway Union Hospital, comprising a ward block for 66 beds, receiving ward, isolation and phthisis pavilions; also additions to the administration block. Percival C. Lacy, Clerk to the Guardians, Clerks' Offices, Medway Poor Law Institution, Chatham. Deposit £2 2s.

✱MAY 1.—**Chichester.**—HOUSES.—Erection of 16 parlour type and 34 non-parlour type, to be built in Kingsham-road, for the Chichester City Council. Messrs. Whitehead & Whitehead, 18, South-street, Chichester.

MAY 1.—**Farnworth.**—HOUSES.—Sixty-four houses at Harper-green, for the U.D.C. F. Ashton, Surveyor. Deposit £2.

MAY 1.—**Mulhuddart.**—SCHOOL.—New national school at Mulhuddart, co. Dublin. S. Fennelly, P.P., Parochial House, Blanchardstown, co. Dublin.

✱MAY 1.—**Shoreditch.**—NURSERY.—Erection and completion of a children's day nursery at Hoxton. Sir Charles T. Ruthen & Co., 44, Bedford-row, Holborn, W.C.1.

MAY 1.—**Tewkesbury.**—HOUSES.—Twelve houses at the Priors Park site, for the T.C. W. Ridler, Borough Surveyor, Station-street. Deposit £2 2s.

MAY 1.—**Wednesbury.**—HOUSES.—Sixty-four houses on the Churchfields estate, for the T.C. A. Booth, Borough Engineer and Surveyor. Deposit £2 2s.

MAY 3.—**Chipping Norton.**—COTTAGES.—One pair and two pairs of cottages at Idbury, for the R.D.C. A. T. Green, Surveyor, 5, Enstone-road, Charlbury, Oxon.

MAY 3.—**Coleford.**—HOUSES.—Six non-parlour type houses in Albert-road and Victoria-road, for the U.D.C. H. Vaughan, surveyor. Deposit 10s. 6d.

MAY 3.—**Dumfries and Galloway.**—ADDITIONS.—Additions to sanatorium at Lochmaben, for the Joint Sanatorium Board. J. Robson, Clerk, County Buildings, Dumfries. Deposit £1 1s.

MAY 3.—**Durham.**—SCHOOL.—Erection of Easington-lane new Council school, partly of composite construction, consisting of framed superstructure and partly of brickwork, for the County of Durham Education Committee. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

MAY 3.—**Guernsey.**—HOUSES.—Erection of 10 houses in La Rue des Monts, Delancey Hill, St. Sampson's, for the States Committee for Homes for Workers of the States of Guernsey. J. A. F. Ozanne, President, States Office, Guernsey. Deposit £2 2s.

MAY 3.—**Hindley.**—HOUSES.—Thirty-four houses on the housing site, Atherton-road, Hindley Green, for the U.D.C. O. P. Abbott, surveyor. Deposit £3 3s.

MAY 3.—**Kent.**—HOUSES.—Erection of 60 on the Shortlands housing estate, for the U.D.C. Surveyor's Department, Council Offices, Bromley-road, Beckenham. Deposit £2.

MAY 3.—**Steyning West.**—HOUSES.—Eleven houses on the Holland-road housing site, Henfield, for the R.D.C. C. H. Wright, Architect and Surveyor, Bank Lodge, Western-road, Shoreham-by-Sea. Deposit £2 2s.

MAY 3.—**Sunbury-on-Thames.**—HOUSES.—Thirty-two houses in Cavendish-road, near Vicarage-road, Sunbury Common, for the U.D.C. H. F. Coales, surveyor. Deposit £2 2s.

MAY 4.—**Bri Chualann.**—PAVILION.—Pavilion public lavatories, &c., on site between Municipal Baths and Strand-road, for the U.D.C. E. M. Murphy, 27, Molesworth-street, Dublin. Deposit £2 2s.

MAY 4.—**Rainham, Kent.**—TELEPHONE EXCHANGE.—Erection of, at Rainham, Kent, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit 1 guinea. (Cheques payable to the Commissioners.)

MAY 4.—**Swansea.**—BUILDING.—Public convenience at Hafod (adjoining the Aberdyberthi Bridge), for the C.B. J. Richard Heath, Borough Engineer and Surveyor.

MAY 4.—**Watford.**—COTTAGES.—Eight cottages near Trowley Bottom, and eight at Primrose-terrace, near King's Langley, for the R.D.C. F. Wilson, Market-place, Watford.

MAY 4.—**Wolstanton United.**—CONVERSION.—Of a number of existing privies into water-carriage system, in Chesterton, for the U.D.C. W. Simcock, Sanitary Inspector, Council House.

MAY 5.—**Cardiff.**—HOUSES.—Six houses at Gwaelodygarth, Pentyrch, for the R.D.C. Richards & McLean, architects, 5, Dumfries-place, Cardiff. Deposit £2.

MAY 5.—**Cardiff.**—BUILDING.—Electricity substation at Creigiau, Pentyrch, for the R.D.C. W. Farrow, Surveyor, Park House, 20, Park-place.

✱MAY 5.—**Chelsea.**—INTERNAL DECORATION AND REPAIRS.—Plastering, painting and repairs to two of the wards and annexes thereto and corridor at St. Luke's Hospital, Cale-street, for the Guardians of the Poor of Chelsea. H. Percy Adams, Guardians' Architect, 9, Knightsbridge, S.W. 1. Deposit £2

MAY 5.—**East Stow.**—HOUSES.—For (*a*) 12 houses at Combs; and (*b*) six houses at Creeting St. Peter, for the R.D.C. Hunt & Coates, architects, 51A, Abbeygate-street, Bury St. Edmunds.

MAY 5.—**Hastings.**—HOUSES.—Fifty semi-detached parlour-type houses, including the construction of roads, footpaths, drainage, fences, &c., on the Red Lake housing site at Ore, for the C.B. G. H. Whitaker, Borough Engineer. Deposit £1 1s.

✱MAY 5.—**Sheffield.**—PUBLIC HALL.—Erection of, for the City Council, at Baker's Pool, Sheffield. Wm. E. Hart, Town Clerk, Town Hall, Sheffield. Deposit, £2 2s.

MAY 5.—**Stourbridge.**—TELEPHONE EXCHANGE.—Erection of, at Stourbridge, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit 1 guinea. (Cheques payable to the Commissioners.)

✱MAY 5.—**Uckfield.**—HOUSES.—Erection of 12 non-parlour type, in blocks of four houses each, in Selby-road, for the U.D.C. Surveyor to the Council Mr. A. Hollis, A.M.S.E., Mountfield Lodge, New Town Deposit £1 1s.

MAY 6.—**Middlesbrough.**—EMPLOYMENT EXCHANGE.—Erection of, at Normanby-road, Southbank, Middlesbrough, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles street, London, S.W.1. Deposit 1 guinea. (Cheques payable to the Commissioners.)

MAY 6.—**Southampton.**—HOUSES.—Seventy-two houses on the Warren-avenue portion of the Shirley Warren housing site, for the C.B. Borough Engineer. Deposit £2 2s.

MAY 7.—**Crawley, Sussex.**—POST OFFICE AND TELEPHONE EXCHANGE.—Erection of, at Crawley, Sussex, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit 1 guinea. (Cheques payable to the Commissioners.)

✱MAY 7.—**Croydon.**—HOUSES.—Erection of 44 in Westminster-avenue, Norbury, for the Croydon C.B. Borough Engineer, Town Hall, Croydon. Deposit £2 2s.

MAY 7.—**Sheffield.**—HALL.—Public hall at Barker's Pool, for the T.C. E. Vincent Harris, F.R.I.B.A., 29, St. James's-square, Pall Mall, S.W.1. Deposit £2 2s.

MAY 8. — **Hayes, Middlesex.**—HOUSES.—Erection of 100 at Hayes, for the U.D.C. Town Hall, Hayes Deposit £5 5s.

MAY 10.—**Greenwich.** — CONCRETE JETTY.—Construction of a reinforced concrete jetty at the Tunnel Avenue Depot, East Greenwich, for the Metropolitan Borough Council. Borough Engineer and Surveyor, Town Hall, Greenwich, S.E.10, between the hours of 10 and 4 p.m., Saturdays (10 and 12 noon). Deposit £5 5s.

✱MAY 10.—**Greenwich.**—HOUSES.—Erection and completion of 100 houses (some of which are partially erected) on Twenty Acre Field site, Shooter's Hill-road, for the Metropolitan Borough of Greenwich, viz., 7 blocks of 4 dwellings, A 3" type, and 18 blocks of 4 dwellings, "B 3" type. Borough Engineer, Town Hall, Greenwich, S.E. 10.

MAY 10.— **Newmarket.**—HOUSES.—Erection of houses in pairs, for the U.D.C. W. H. Eley, Assoc.M. Inst.C.E., Godolphin House, Newmarket.

✱MAY 11.—**Leicester.**—TELEPHONE EXCHANGE.—To be erected for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

MAY 11.—**Whickham.**—HOUSES.—Ninety-one houses and flats on the housing site, Dunston-on-Tyne, for the U.D.C. T. Fenbow, surveyor. Deposit £3 3s.

✱MAY 12.—**Bishop Auckland.**—EMPLOYMENT EXCHANGE.—To be erected for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

MAY 15.—**Dublin.**—BUILDING.—Construction of three pumping stations, consisting of cast-iron tubbing and pipe and other work connected therewith, at North Lotts, for the C.B. J. S. Alford, 11, Victoria-street, Westminster, S.W. 1. Deposit £5 5s.

MAY 18.—**Gisburn.**—ADDITION.—Alterations and additions to Gisburn Council School, for the West Riding E.C. Education Department, County Hall, Wakefield.

MAY 18.—**Penistone.**—ADDITIONS.—To heating apparatus at Penistone Spring Vale Council School, for the West Riding E.C. Education Department, County Hall, Wakefield.

MAY 20.—**Belfast.**—BUILDING.—Lecture block at the Training College, Strathmillis, Belfast, for the Government of Northern Ireland. Secretary, Ministry of Finance, 15, Donegall-square West, Belfast. Deposit £5.

NO DATE.—**Charleville.**—HOUSES.—Two houses for the Earl of Kenmare, at Charleville, Co. Cork. Ed. M. Murphy, 27, Molesworth-street, Dublin. Deposit £1 1s.

NO DATE.—**Dumbarton** (EASTERN).—HOUSES.—Fifty houses at Bearsden Village, for the D.C. J. Weekes, architect, 88, College-street.

NO DATE.—**Hetton.**—BUNGALOWS.—Fifty bungalows on Hetton housing site, for the U.D.C. A. H. Fennell, architect, Bridge End Chambers, Chester-le-Street. Deposit £2 2s.

NO DATE.—**Keith.**—LIGHTING.—Electric lighting and power wiring installation at Isla Bank Mills, Keith. G. Burns & Sons, textile factory engineers, Galashiels.

NO DATE.—**Lynemouth.**—HALL.—Primitive Methodist Church hall at Lynemouth, near Ashington. J. J. Eltringham, L.R.I.B.A., chartered architect, Blackhill, co. Durham. Deposit £1 1s.

NO DATE.—**Merklands.**—HOUSE.—Police constable's house and office at Merklands, near Kirkintilloch, for the Dumbarton C.C. J. Weekes, 88, College-street, Dumbarton.

NO DATE.—**Midlothian (Calder).**—HOUSES.—Kirknewton, eight houses; East Calder, 22 houses; Mid Calder, 12 houses; West Calder, 48 houses, for the D.C. of the C.C. A. G. G. Asher, W.S., District Clerk, County Rooms, Edinburgh.

NO DATE.—**Near Halifax.**—WIRING.—Wiring of about 70 points in house near Halifax. H. Thompson, architect, Elland.

NO DATE.—**Straffan.**—REBUILDING.—Of Palmerstown House, Straffan, Co. Kildare. White & Meares, solicitors, 16, Molesworth-street, Dublin.

NO DATE.—**Tunstall.**—HOUSE.—House and farm buildings at Tunstall, near Catterick. Wetherell & Dent, architects, High-row-chambers, Richmond, Yorks.

MATERIALS, etc.

APRIL 26.—**India.**—MATERIALS.—Steel bridgework, for the Director-General, India Store Department, Branch No. 16, Belvedere-road, Lambeth, S.E.1.

APRIL 26.—**Prestwich.**—MATERIALS.—Cubical limestone chippings, granite setts, granite chippings, dressed edging kerb, lonkey setts, cement concrete flags, British Portland cement, tarred slag, tarred limestone, sand, for the U.D.C. M. A. Piercy, surveyor.

APRIL 27.—**Leeds.**—FENCING.—520 lin. yds. of wrought iron fencing, 5 ft. 6 in. high, for the T.C. W. T. Lancashire, City Engineer.

APRIL 28.—**Glasgow.**—MATERIALS.—Plumbers' furnishings, paints and varnish, joiner work, &c., for the T.C. R. B. Thomson, General Manager, Baths Department, 38, College-street.

MAY 1.—**Hayes.**—MATERIALS.—Paint and other painters' materials, for the U.D.C. D. C. Fidler, surveyor.

MAY 3.—**Karachi Port.**—CEMENT.—For 8,750 tons Portland cement, for the Trust. Rendel, Palmer & Tritton, 12-14, Dartmouth-street, Westminster, S.W.1.

MAY 3.—**Reading.**—MATERIALS.—British Portland cement (about 350 tons), rapid hardening aluminous cement (about 30 tons), steel tramway rails (about 165 tons), creosoted wood blocks (about 150,000), for the C.B. General Manager and Engineer, Reading Corporation Tramways, Mill-lane.

MAY 3.—**South Mimms.**—MATERIALS.—500 tons of tarmacadam, 1,500 tons of 2 in. to 2½ in. limestone, clean, well-screened gravel, hoggin, and grit, for the R.D.C. G. Simcox, surveyor, Potters Bar.

MAY 5.—**Hove.**—GRANITE.—1,000 ft. lin. flat granite kerbing, for the T.C. Borough Surveyor.

MAY 29.—**Rainham.**—PIPES.—2,530 tons of cast-iron pipes and specials, for the Rochester and Chatham Joint Sewerage Board. W. H. Radford & Son, Chartered Civil Engineers, Albion Chambers, King-street, Nottingham. Deposit £3 3s.

NO DATE.—**Cheltenham.**—MELIA.—Clean granite or other hard stone media for sewage filters (approximately 1,000 tons ¾ in., 5,500 tons 1½ in., and 750 tons 3 in.), for the T.C. J. S. Pickering, Borough Engineer.

ENGINEERING, IRON AND STEEL.

APRIL 26.—**Guildford.**—BRIDGE.—Construction of a ferro-concrete bridge on the Hennebique system over the River Wey at Newark-lane, for the R.D.C. J. Anstee, engineer and surveyor, Commercial-road. Deposit £2 2s.

MAY 10.—**Blackburn.**—BRIDGE.—Reinforced concrete bridge over the Leeds and Liverpool Canal at Shorrock-lane, for the C.B. A. T. Gooseman, Borough and Water Engineer. Deposit £3 3s.

MAY 10.—**Leicester.**—TANKS.—Construction of new covered storm water tanks, channels, drains, &c.. and all other works in connection with the sewage disposal works, for the T.C. City Engineer. Deposit £5.

MAY 10.—**London.**—BATHS.—Engineering work at the new baths, Grange-road, for the Bermondsey B.C. W. M. Binny, 39, Carlton-road, Putney, S.W. Deposit £2.

MAY 19.—**Aberbeeg.**—BRIDGE.—Reconstruction of a bridge, road improvements, and other works at Aberbeeg, Mon, for the G.W.R. F. R. E. Davis, Secretary, Paddington Station, W.2. Deposit £2 2s.

ROAD, SEWERAGE, AND WATER WORKS.

APRIL 26.—**Basford.**—MAIN.—Providing and laying about 330 yds. of 3 in. cast iron pipe water main, with the necessary special castings and valves, &c., at Langton Hollow, for the R.D.C. S. Maylan, Engineer and Surveyor. Deposit £1 1s.

APRIL 26.—**Glasgow.**—SEWERS.—Construction of two 12 in. pipe sewers on the north and south sides of Great Western-road, respectively, from Byres-road to Hyndland-road, for the T.C. J. Lindsay, Town Clerk.

APRIL 26.—**Liverpool.**—PIPELAYING.—Laying of steel pipes of 42 in. internal diameter, and other ancillary works, as follows:—From Hirnant to Werndduu, in the County of Montgomery, and from Lloran-Ganol to Bodlith, in the County of Denbigh, for a distance of about 4¼ miles, for the T.C. Water Engineer, Alexandra Buildings, 55, Dale-street. Deposit £5 5s.

APRIL 26.—**Rathdrum.**—WATER SUPPLY.—Carrying out certain works in connection with the introduction of a water supply to the County Home, Rathdrum, for the Wicklow County Board of Health. T. B. Lowey, engineer, 13, Rutland-street, Upper, Dublin.

APRIL 26.—**Rathmines.**—MAINS.—Construction of a reinforced concrete road, with main sewer, cross drain and water mains, at Cowper-gardens, for W. Pickering. Higginbotham & Stafford, architects and civil engineers, 3, Clare-street, Dublin.

APRIL 26.—**Tynemouth.**—ROAD.—Between Albion-road and Lansdowne-terrace, for the C.B. J. F. Smillie, Borough Surveyor.

APRIL 27.—**Ashington.**—MAKING-UP.—Of Harmonic-avenue and Back Duke-street West, Ashington, for the U.D.C. G. Beaty, Surveyor and Engineer.

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APRIL 27.—**Batley.**—PIPES.—Laying and jointing of a pipe line between the Brownhill Reservoir, for the T.C. G. H. Hill & Sons (Manchester), Civil Engineers, 40, Kennedy-street, Manchester. Deposit £3 3s.

APRIL 27.—**Epsom.**—MAKING-UP.—Laying concrete roads for the making-up of Stoneleigh-drive and Kingsmead-avenue, Worcester Park, Cuddington, for the R.D.C. T. E. Ware, Surveyor, Waterloo-road.

APRIL 27.—**Mitcham.**—MAKING-UP.—For (*a*) Albert-road, and (*b*) Thirsk-road, for the U.D.C. Surveyor, Broadway House, London-road, Lower Mitcham.

APRIL 28.—**Highgate.**—ROAD WORKS.—Sewering, levelling, paving, metalling, kerbing, channelling, and making good of the following roads: Cholmeley-crescent (second section), about 652 ft. lineal (including part formerly known as Causton-road); Coolhurst-avenue (second section), about 767 ft. lineal, for the Town Council. E. J. Lovegrove, Borough Engineer and Surveyor, Town Hall, Highgate.

APRIL 30.—**Innerleithen.**—PIPING.—Supplying and laying 1,220 yds. 5 in. cast-iron piping, and 120 yds. 3 in. cast-iron piping, together with the construction of a new filter house, for the T.C. J. C. Miller, C.E., Burgh Surveyor.

APRIL 30.—**Rothbury.**—MAINS.—3,600 yds. of 3 and 2 in. cast-iron water mains with the necessary valves, &c., for the U.D.C. D. Balfour & Son, engineers, 3, St. Nicholas' Buildings, Newcastle-on-Tyne. Deposit £3.

MAY 3.—**Scunthorpe and Frodingham.**—MAKING-UP.—Of several streets and 10 ft. roads in the Mary-street area, for the U.D.C. W. Farrar, engineer and surveyor. Deposit £1.

MAY 3.—**Whitstable.**—MAKING-UP.—Of Baddlesmere-road (approximate length 565 yds.), for the U.D.C. J. Dunn, surveyor.

MAY 5.—**Cardiff.**—SEWERS.—For (*a*) construction of about 200 lin. yds. of 9 in. earthenware pipe sewers, with manholes, &c., at Murch-road, Dinas Powis; and (*b*) private street works and surface water sewers in Caegwyn-road (part of) and Welwyn-road, Whitchurch, for the R.D.C. W. Farrow, surveyor, Park House, 20, Park-place, Cardiff.

MAY 5.—**Hove.**—MAKING-UP.—Making-up roadway, laying new paving, kerbing and channelling, and other works in Leicester Villas, for the T.C. Borough Surveyor.

MAY 5.—**Wembley.**—RAILING.—230 yds. of stock pattern self-adjusting unclimbable wrought iron railing, 5 ft. high, with ¾ in. verticals and pointed tops, and one pair of gates to match for 8 ft. clear opening, including posts, stop block, bolt, padlock, &c., for the U.D.C. C. R. W. Chapman, engineer and surveyor.

MAY 7.—**Irvine.**—DRAINAGE.—Levelling, road-making, drainage, and sewage works of part of the proposed cemetery at Knadgerhill, for the T.C. J. Armour, architect, 43, Bridgegate. Deposit £1 1s.

MAY 10.—**Oswestry.**—SEWERS.—Construction of stoneware and cast iron sewers, varying in size from 6 in. to 12 in. diameter, manholes, pumping station, and other appurtenant works, at Gobowen, for the R.D.C. Berrington & Son, engineers, Prudential Chambers, Lichfield-street, Wolverhampton. Deposit £5 5s.

✱MAY 18.—**Belfast.**—PROCESSIONAL ROAD AND TERRACE BANKS.—To be erected for the North of Ireland Government Buildings, Stormont Castle, Belfast, for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

MAY 29.—**Rainham.**—SEWER.—Construction of the main outfall sewer, consisting of laying about 3,194 yds. of 36 in., 33 in., and 32 in. cast iron pipes in double pipe line; and the construction of about 241 yards of concrete sewer culvert, size 5 ft. 3 in. high by 3 ft. 6 in. wide, together with appurtenant works; also for the construction of new sewage disposal works, comprising grit tanks, screens, sewage carriers, storm tanks, settling tanks, sludge drying beds, power house, pump house, offices, and all appurtenant works, at Motney Hill, near Rainham, Kent; also for laying about 924 yds. lin. of 24 in., 36 in. and 42 in. cast iron pipes on the site, and 494 yds. lin. of 36 in. and 42 in. cast iron tidal outfall pipes on wood piling, for the Rochester and Chatham Joint Sewerage Board. W. H. Radford & Son, Chartered Civil Engineers, Albion Chambers, King-street, Nottingham. Deposit £10 10s.

NO DATE.—**Uxbridge.**—ROAD.—Construction of a road and sewers at Cowley, for the R.D.C. F. Hall-Jones, F.R.I.B.A., architect, 11, Haven Green, Ealing, W.5. Deposit £2 2s.

Competitions.

(*See Competition News page* 690.)

Auction Sales, Tenders, etc.

APRIL 27.—**Farnborough, Hants.**—Hampton & Sons will sell, at the St. James's Estate Rooms, 20, St. James's-square, S.W.1, freehold building lands, forming part of the Farnborough Hill Estate, Farnborough, Hants, important road frontages, woodlands and pasture lands, superior cottage, in all extending to about 87 acres. Auctioneers, 20, St. James's-square, S.W.1.

APRIL 27.—**London.**—Bradshaw, Brown & Co. will sell, in lots, at No. 1, Jewry-street, Aldgate, E.C., plant and machinery, builders' materials, office furniture, &c. Auctioneers, Billiter-square Buildings, E.C.3, and at Brentford.

✱APRIL 27.—**London, S.W.**—Veryard & Yates will sell, without reserve, to clear site, at "Fairfield House" Poynders-road, Clapham Park, S.W., timber and building materials, from demolition of the above premises. Auctioneers, 365, Norwood-road, S.E.27.

APRIL 27.—**London.**—J. T. Skelding & Co. will sell, without reserve, by order of the trustee, E. H. Hawkins, Esq., F.S.A.A., *re* Wills & Chaplin, at 344, Old-street, E.C., saw mill engineers' stock-in-trade, plant, and machinery. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

✱APRIL 29.—**London, S.E.**—Veryard & Yates will sell, without reserve, to clear site, at "The Hall," Dulwich Village, S.E., fixtures and fittings and building materials from demolition of the residence. Auctioneers, 365, Norwood-road, S.E.27.

MAY 4.—**Berkshire.**—Hampton & Sons will sell, at the Estate Rooms, 20, St. James's-square, S.W., freehold property, with vacant possession, at Maidenhead known as "The Fishery," on the River Thames, in all, over 3¼ acres; also building site of 1¼ acre.

MAY 6.—**Tottenham.**—J. T. Skelding & Co. will sell, without reserve, by order of the owners, on completion of contracts, on land (adjoining No. 594), Seven Sisters-road, Tottenham, builders' and contractors' plant and materials. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

MAY 6.—**Worthing.**—Patching & Co. will sell the freehold Marine Estate known as Seamill Farm, Brighton-road, comprising about 10 acres. Auctioneers, 1, Chapel-road, Worthing.

MAY 11.—**Tisbury.**—Leopard, Farmer & Sons will sell by order of the Liquidator, at Stone Quarries, Tisbury, near Salisbury, plant, machinery and stock of Gething & Co. (Chilmark), Ltd. Auctioneers, 46, Gresham-street, E.C.

MAY 18.—**Isle of Wight.**—Freehold property, at Yarmouth, I.O.W., known as "Roffard House," freehold residence; also building estate of nearly 14 acres, with vacant possession. Auctioneers, 20, St. James's-square, S.W.1.

MAY 18.—**Kent.**—Freehold property, at Bromley, known as "Church House," with vacant possession.

✱MAY 18.—**London, E.C.2.**—W. W. Howard Bros. & Co., in conjunction with Joseph Hibbard & Sons, will sell stock of Burma hardwoods, by order of the Government of Burma, at the Small Hall, Winchester House, Old Broad-street, E.C.2. Auctioneers, Joseph Hibbard & Sons, 15, Newington Green, Islington, N. 16.

MAY 20.—**Bexhill-on-Sea.**—Humbert & Flint, in conjunction with Stevens & Sons, will sell, in numerous lots, at the Highwood Golf Club House, freehold building land of about 30 acres, 5,000 ft. frontage to public roads. Auctioneers, Stevens & Sons, 1, Sea-road, Bexhill-on-Sea; Humbert & Flint, 11, Serle-street, Lincoln's Inn Fields, W.C.2, and Watford, Herts.

✱JUNE 8.—**MIDDLESEX.**—Freehold building land, at Pinner, of over 2½ acres, with vacant possession.

Public Appointments.

APRIL 26.—**Exeter.**—Clerk of Works required by the City Council to supervise the erection of 154 concrete and 30 brick houses. John Bennett, City Architect, Exeter.

APRIL 28.—**Sheffield.**—Two Architectural Draughtsmen, one qualified Surveyor, required by the City Council. City Architect, Architect's Department, Sheffield.

APRIL 30 (FIRST POST).—**India Office, Whitehall.**—Surveyor and Clerk of Works required by the Secretary of State for India on his establishment, which will be vacant on June 10, 1926. Establishment Officer, India Office, S.W.1.

MAY 1.—**Middleton, Lancs.**—Architectural and Town-Planning Assistant required by the Town Council in the Borough Engineer's and Surveyor's and Borough Architect's Department. J. P. Walmsley, Town Clerk, Town Hall, Middleton, endorsed "Architectural Assistant."

✱IMMEDIATELY.—**Hong Kong.**—Sanitary Inspector required by the Government of Hong Kong, for three years. Apply by letter, M/14511, Crown Agents for the Colonies, 4, Millbank, Westminster, S.W.1.

✱IMMEDIATELY.—**Nigeria.**—Foreman of Works required by the Government of Nigeria in the Public Works Department, for two tours of 12—18 months. Apply by letter, Crown Agents for the Colonies, 4, Millbank, Westminster, S.W.1. M/14460.

✱NO DATE.—**Sudan.**—ARCHITECTURAL DRAUGHTSMAN.—Required by the Sudan Government, Public Works Department. The Advisory Engineer, Sudan Government, Wellington House Buckingham-gate, S.W.1.

✱NO DATE.—**Westminster.**—TEMPORARY ARCHITECTURAL ASSISTANTS.—Required by the County Council of Middlesex. H. G. Crothall, F.R.I.B.A., County Architect, Guildhall, Westminster, S.W.1.

Victoria Improvements.

Improvement works are proceeding at Vauxhall Bridge-road and Wilton-road. Housebreakers have cleared an area of nearly 100 by 50 yds. The buildings demolished constituted the block between the Windsor Castle Hotel and Messrs. Parnell's drapery stores, and included the Victoria Picture Palace, running through the block from road to road, eight private hotels on Vauxhall Bridge-road, and the Continental Restaurant, on Wilton-road. It is proposed to set back by 30 ft. the Windsor Castle Hotel, forming the point of this brick and mortar promontory, and ultimately a widening of 80 ft. in the Vauxhall Bridge-road, and of 60 ft. in the Wilton-road approach to Victoria Station will be secured. The estimated cost of the clearance is £67,000, the scheme having been adopted by the L.C.C. Within a few weeks rebuilding on the site will commence. The picture palace is to be reconstructed. Other projects for the improvement of the Victoria Station area include, it is understood, the removal of the Duke of York public-house at the corner of Allington-street, and an extension of the adjoining Victoria Palace variety theatre.

PROPOSED NEW BUILDINGS & OTHER WORKS*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ABRAM.—The D.C. has decided to make application to the M.H. for permission to borrow £9,500 in order to complete the housing scheme at Kingsdown-road.

ALLERTON-BYWATER.—Plans have been approved for a new mortuary by the R.D.C.

ARMAGH.—The R.D.C. proposes to build a hundred houses, at a cost of £355 each.

ASHBY-DE-LA-ZOUCH.—The U.D.C. recommend the acceptance of a tender for £5,740, for the erection of 12 houses on the Smisby-road.

ASHTEAD.—The M.H. has sanctioned to the R.D.C. a loan of £3,650 for the erection of eight houses at Barnett Wood-lane.

BARKING.—The U.D.C. has sanctioned various plans, including 54 houses on the Cecil-gardens estate, for C. Gray.

BARNBY-DUN.—A new hotel is to be erected for the Tadcaster Tower Brewery Co., Ltd.

BINGLEY.—In connection with the scheme for the erection of a Girls' Grammar School upon a site adjoining the present boys' school, a new sports pavilion is to be erected on the Ryshworth Hall estate.

BIRTLEY.—The Parish Council have requested the Chester-le-Street R.D.C. to consider the question of the erection of 500 houses in Birtley.

BLACKBURN.—Application is to be made to the M.H. for the erection of 16 houses on the Hollin Bridge-street housing site.

BLACKPOOL.—The Rev. J. W. Hope, of St. Mary's, Highfield-road, South Shore, has secured a site on the corner of Dunes-avenue for the erection of a new edifice.—The Liberal Club are arranging to purchase the property known as "Red Leas," Hornby-road, to be utilised for new club headquarters.

BOLTON.—The Tonge Moor Church members have approved a scheme for the erection of additional premises for Sunday school purposes on the site of the existing minister's house and to erect new premises for the minister on a site between Tonge Moor and Harwood.—Plans have been approved for a new hotel and shop premises in Deansgate for Messrs. Magee, Marshall & Co., Ltd., Crown Brewery. Messrs. Briggs & Thornley, architects, Richmond-terrace, Blackburn. The scheme is estimated to cost £20,000 to £25,000.—The Board of Management of the Bolton Infirmary are to make extensions to their institution to increase the accommodation by 50 beds, and to erect a new nursing home off Chorley Old-road. Messrs. Bradshaw, Gass & Hope, architects, 19, Silverwell-street, Bolton, have the scheme in hand.

BOURNEMOUTH.—A report is to be obtained regarding the provision of a headmaster's room at Boscombe School. Sanction has been obtained for a loan of £12,500 for the enlargement of Stourfield elementary school. The Borough Engineer has been instructed to prepare plans for chapels and crematorium. Sites for new conveniences are being inspected. Twenty acres on the Strouden Farm are to be allocated for a housing scheme. A bindery is to be provided and other work undertaken at Winton Library, at a cost of £1,100. Revised plans are being prepared for a new infants' department at Moorfields Church of England schools. The managers of St. Walburga School are obtaining a site for the erection of a new school.

BRADFORD.—The T.C. passed plans: R. J. Patchett, Ltd., Harbour-road, Reevy-road, and Cross-road, 8 houses; Heaton (Bfd.) Estate Co., Ltd., Duchy-drive and Wheatlands-square, 14; J. H. Pitchers & Son, Wellands-terrace, 7; L. Mitchell & Co., Beverley-street, 6; S. Priestley, Carr Bottom-road, 12; Eccleshill Estate Co., Ltd., Ennerdale-road, 28.—The City Engineer has submitted to the Special Public Hall Committee plans and particulars of sites which might be regarded as suitable for the erection of a public hall and other details are to be obtained as to certain sites. The City Architect has submitted preliminary sketch plans showing a scheme for utilising one site and the officers concerned have been asked to prepare a general report on the commercial possibilities of a site in the central area of the city. It is reported that a further sum of £1,288,000 will be required for the completion of the Esholt sewage disposal works, and it is proposed to borrow another sum of £500,000 for further works in connection with the scheme. Sanction has been obtained to borrow £200,000 for general waterworks purposes. Sanction has been obtained for a loan of £60,000 for filtration works at Chellow Heights. Pressure filters are to be installed at Thornton waterworks at a cost of £21,000. Combined baths and libraries are to be erected on the housing estates at Bierley and Lower Grange. A loan of £1,000 is to be sought for the erection of refreshment pavilions at Bradford Moor, Bowling, Horton and Peel Parks. Sites for elementary schools are to be reserved on the Bradford Moor and Lower Grange housing estates. Plans are to be prepared for an open-air school at Bierley. Approval has been given to plans for the new secondary school to be erected at Bolling Hall, at an estimated cost of £76,000. The M.H. has sanctioned the scheme for the erection of 482 houses on the Lower Grange estate.

BRISTOL.—Approval has been given to plans for 66 houses on the Broomwell House estate, Brislington.

BURTON.—The T.C. has approved schemes which will cost nearly £200,000. Tenders have been accepted for the building of 192 houses at a cost of over £118,000.—The replacement of a 2,000 kilowatt set at the electricity works by a 6,000 set and the extension of mains in South Derbyshire will cost £60,000.—It was announced also that the scheme for the new girls' high school, approved by the Council some months ago, is to be proceeded with immediately. This will cost about £50,000.

CATERHAM.—The U.D.C. has agreed upon a scheme for extensions to the municipal offices and tenders are being invited.

CHATTERTON.—The D.C. has approved plans for the erection of an electricity sub-station on Broadway, near Hunt-lane, deposited by the Oldham Corporation.

CLONMEL.—The Corporation are to rebuild the married quarters at the military barracks to provide 21 flats.

COLCHESTER.—The T.C. recommend that application be made to the M.H. for sanction to the borrowing by the T.C. of £25,170 for the purpose of erection of 51 houses at Lexden. The Council are also considering various sites for housing purposes.

DARLINGTON.—The Parochial Church Council are proposing to complete the St. Luke's Church by the erection of a chancel. The work will cost about £2,000.

DERBY.—The County Council has decided to carry out the reconstruction of Hazleford Bridge at Hathersage, and Cuttle Bridge, Swakestone, at an estimated cost of £22,500 and £5,915 respectively.

DINNINGTON (S. YORKS).—A publican's licence has been granted in respect of a new hotel to be erected for the Tadcaster Brewery.

DODWORTH (BARNSLEY).—The West Riding Licensing Committee has approved of a publican's licence being granted in respect of a new hotel to be erected.

DORCHESTER.—The Borough Engineer is to prepare plans for the adaptation of premises in North-square for municipal offices.—Extensions are proposed at the Dorset County Hospital in Princes-street.—Tenders are to be obtained for the erection of 56 houses on the Victoria Park site.—The Housing Committee has given instructions for tenders to be obtained for the erection of 54 parlour-type houses on the Victoria-park site as soon as the consent of the M.H. has been received.

DUBLIN.—The Fitzwilliam Lawn-Tennis Club are having a permanent stand erected in front of the clubhouse to accommodate 700 people.

EASTBOURNE.—It is proposed to erect a new branch public library at the east end of the town.

ESHER.—The U.D.C. has instructed the Surveyor to prepare a scheme for the erection of dwellings on the Greenwood Lodge estate, Thames Ditton.

FEATHERSTONE.—The U.D.C. are applying to the M.H. for sanction to borrow £21,940 for the erection of 50 houses at Streethouse.

FERMANAGH.—The cost of rebuilding destroyed areas in County Fermanagh is estimated by the County Surveyor at £31,730.

GOBOWEN, NEAR OSWESTRY.—A new church is to be erected at Gobowen. The estimate for building the chancel, vestry, heating chamber and nave up to the tower is £5,000.

GODALMING.—A site in Ockford-road has been acquired for the erection of a telephone exchange.

GOSFORTH.—The U.D.C. has secured permission from the M.H. to borrow £34,280 for the erection of 84 houses at Coxlodge.

HATFIELD (S. YORKS).—A new hotel is shortly to be commenced upon a site reserved on the Thorne Colliery Company's housing estate.

HEMSWORTH.—The Leeds and Wakefield Brewery Co. are to erect a new hotel. Messrs. Garside and Pennington, of Ropergate, Pontefract, are the architects.

* See also our List of Contracts, Competitions, etc.

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HOYLAKE.—Preparations for the erection of the new church have been commenced. The architects for the scheme are Messrs. E. Kirby & Son, F.R.I.B.A., 5, Cook-street, Liverpool.

HULL.—The Public Libraries Committee are to buy a plot of land for about £1,000 on the West Hull housing estate as a site for a branch library.

KETTERING.—The Kettering Cricket Club are to erect a new pavilion in their new grounds recently purchased from the Duke of Buccleuch. The site is in Northampton-road, and the cost £2,800.

LEEDS.—Plans have been prepared for the erection of a new factory at Hunslet for Bryant & May's, Ltd. The architects are Chorley, Gribbon & Foggitt, Park-place, Leeds, and tenders are being invited.

LEYTON.—The Essex E.C. has now obtained sufficient land for the site of the proposed new secondary school.

LITTLE SMEATON.—The Tadcaster Tower Brewery Co., Ltd., are to erect a new hotel upon a site adjacent to the Fox Inn.

LIVERPOOL.—Plans have been approved by the Central Board of Finance for the rebuilding of the Warrington Training College on a site in Liverpool.—The Committee of the Everton Football Club propose to erect a new stand at Goodison Park.—The Waterloo Conservative Association has purchased the property known as Colonsay House for their new headquarters. The equipment is estimated to cost £2,000.

LLANTRISSANT.—Glamorgan C.C. are considering the acquisition of Hensol Castle, for the purposes of a mental hospital.

LONDON (BERMONDSEY).—The B.C. are to provide dust destructor works at a cost of £24,000.—Improvements are to be undertaken by the trustees at the Amicable Society's schools, Adams-gardens, Rotherhithe.

LONDON (FULHAM).—The B.C. recommend that an expenditure of £1,250 be authorised for the execution of the necessary alterations to and adaptation of the basement of 708, Fulham-road for electricity sub-station purposes.

LONDON (HACKNEY).—The B.C. recommend £11,750 and £8,250 for the erection of the necessary sub-station buildings at Stamford-hill. Tenders are being invited for the erection of the buildings.—The Council also recommend to accept the lowest quotation received for the redecoration of the board room at the Central baths. This work will cost £103.—The work in connection with the lighting of the Council Chamber is to be carried out at a cost of £306 5s.—Plans passed: H. W. Binns, seven shops, with warehouses over, on a vacant site abutting upon Mare-street, Well-street, and Weston-place; H. Somerford & Son, six shops, with billiards hall over, on the site of 239 to 249, Mare-street, and abutting on the southern side of Ellingfort-road; R. F. Peachey & Son, motor showroom, workshop and service depot on the site of 49, Stamford-hill.

LONDON (SHOREDITCH).—The L.C.C. are preparing a scheme for widening Shoreditch High-street, between Church-street and Bethnal Green-road, at a cost of £86,000.—Premises at the corner of Old-street and Coronet-street are to be acquired and converted into electricity showrooms at a cost of £12,500.

LOWESTOFT.—The C.B. has approved the plan of the Borough Surveyor for providing additional accommodation at the public convenience, Oulton Broad. The work is to be carried out at a cost of approximately £900.—The Borough Surveyor has been instructed to proceed with the construction of the mortuary at the Isolation Hospital.—The Council has approved the report of the Borough Surveyor for the cost of the construction of the jetty for a length of 80 ft. at £200.—The M.H. has given formal sanction to the borrowing by the T.C. of £7,923 in respect of the erection of four houses on the Beccles-road site.—The Borough Surveyor has been instructed to erect a concrete stall adjoining the back of the flood wall of the North Beach, at a cost of £100.—Application is to be made to the M.H. for sanction to the borrowing of £3,170 for the enlargement of the Central School by the provision of practical instruction rooms, in accordance with plans approved by the B.E.

MANCHESTER.—The E.C. are considering the allocation of sites for new schools on housing estates at Gorton, Burnage and Moston.—The Libraries Committee have indicated their requirements in regard to the new central library to the Town Hall Extension Committee.—The chairman of the City Justices' Licensing Committee has confirmed the removal of the publican's licence of the Greyhound Tavern, Baptist-street, off Rochdale-road, to premises to be constructed on land at the corner of Beresford-road and Farrar-road, Longsight.

NEWCASTLE.—Sanction has been given by the City Council to build a new shed at the Quay, at a cost of £4,524.

NEWMARKET.—The U.D.C. has decided to invite tenders for the erection of 26 non-parlour type houses on the Laureat Paddocks site.

NOTTINGHAM.—The City Council has decided unanimously to apply to the Electricity Commissioners for sanction to the borrowing of a further sum of £135,000 in respect of underground mains, transformers, switch-gear, sub-station buildings.—Funds are being raised for a new central block of Y.W.C.A. buildings.

OKEHAMPTON.—The rector of Halwill-with-Beaworthy, Devon, has decided to sell flowers in Okehampton market in order to raise money for the repair of the church.

OLDHAM.—The M.H. has sanctioned the Smethurst-street improvement scheme and the lay-out of the rehousing sites at Barrowshaw. Messrs. Mouchel & Partners have completed specifications for the construction of the piling and ferro-concrete foundation work in connection with the new generating station and tenders for the work are to be invited. The Borough Engineer is to prepare a plan and estimate of alterations at the central fire station. The M.H. is to hold an inquiry into the scheme for the erection of a pavilion and conveniences at Grains Bar. The E.C. has obtained sanction to proceed at once with the extension of the Ashcroft technical school. Additional accommodation is to be provided at the Waterhead Church Schools.—The T.C. passed plans for F. Thompson, 16 houses, Thurland-road and Tunstall-road.

OSSETT.—The Borough Surveyor of the T.C. has been instructed to prepare plans for the erection of 42 municipal houses, and two new streets off the new road, Queen's-drive.

OSTERLEY.—A site on the Great West-road, W., has been purchased by Truman, Hanbury, Buxton & Co., Ltd., brewers, Spitalfields, E.1, for the erection of a public house, to be called the "Osterley Park Hotel." Mr. A. E. Sewell, L.R.I.B.A., architect.

OXTED.—The Committee of the War Memorial Cottage Hospital has prepared a scheme for extensions to cost about £1,300.

PAIGNTON.—Land is to be obtained for the proposed pumping station in connection with the Tweenways drainage scheme.—Plans passed: 16 houses, Elm Park, for Maunder & Sons; 14 houses, York-road, for Collings & Ellis.

PORTSMOUTH.—The T.C. approved plans: Howe & Bishop, 8 houses and garages, Kirby-road, and T. Dunne, 24 lock-up garages in Emsworth-road.

RICKMANSWORTH.—Rickmansworth Picture House, Ltd., has been formed, with a nominal capital of £8,000, to build a cinema on land to be acquired in the High-street. Messrs. Morlands, surveyors, Council Chambers, High-street.

RUGBY.—The R.D.C. has accepted tenders for the erection of eight houses at Stretton-on-Dunsmore at a cost of £3,919, and eight at Ryton-on-Dunsmore, at a cost of £4,081.

ST. THOMAS (Devon).—The R.D.C. are to build 96 houses.

SALFORD.—It is proposed to build new premises for the Salford Nursery School in Encombe-place, Chapel-street. A site has been secured in Hulme-street, Oldfield-road.

SANDBACH.—Plans have been approved by the Council for the erection of new headquarters in School-lane, Elworth, for the Elworth Boy Scouts.

SHEFFIELD.—The Estates Committee of the Corporation is to invite tenders for the erection of 217 houses at the Manor Estate, Intake. Plans and specifications have been prepared by the City Architect.

STAFFORDSHIRE.—The Staffordshire Mental Hospitals Board propose that an admission hospital for 25 males and 25 females should be erected at each of their three asylums at Stafford, Cheddleton, and Burntwood.

STOCKSBRIDGE.—It is proposed to erect a new church in the Garden Village, at an estimated cost of £800.

SUTTON COLDFIELD.—Plans passed by the T.C.: Seven houses and one bungalow, Britwell-road, for Spooner & Tew; eight houses, Chester-road, for A. Morris; and 30 houses, Slade-road, for F. W. Eden.

SWADLINCOTE.—The members of the United Primitive Methodist Church, are proposing to erect a new church at Midway, at an estimated cost of £3,500.

THORNTON.—The Building Plans Committee of the D.C. have approved plans submitted by the Thornton Building Co., for the erection of 12 houses in Sandringham-avenue.

TORQUAY.—The Office of Works are to erect a telephone exchange at West Hill. A loan of £1,000 has been sanctioned for buildings for a school clinic. Plans have been prepared for the erection of 60 houses on the Hele estate. A site in the Hele district is to be reserved for the erection of an elementary school.

TRURO.—The City Engineer is to prepare schemes for laying out the grounds of Worth's Quay and the provision of conveniences.—Mr. Christie has prepared provisional plans for alterations at the Old Assembly Rooms in High Cross.—The City Engineer has prepared plans for 30 houses to be erected on the Hendra site.

UPTON.—A new hotel is to be erected by Messrs. Wm. Pickersgill & Co., Ltd., of Pontefract, upon a site at the junction of Upton Common-lane and New-lane.

WAKEFIELD.—The Corporation have decided to erect 1,000 houses. The City Surveyor is to prepare a scheme for adapting premises in King-street for the Education Department. The City Engineer and Medical Officer are to prepare a scheme for a joint fever hospital and sanatorium, with accommodation for 90 beds. Approval has been given to the lay-out of the surrounds of the new bandstand. The City Engineer has prepared plans for the extension of the technical school. Approval has been given to sketch plans for an elementary school at Manygates. A site is to be selected on the Lupset housing estate for an elementary school.

WARRINGTON.—The plans of 157 houses in and between Alder-lane and Shaw's-avenue, for R. & S. Smith, have been approved by the T.C.

WEST BRILGFORD.—A meeting has been held to consider the question of building a Parish Hall, and ultimately it was decided to proceed with the raising of funds. No definite scheme was adopted, but plans were exhibited involving expenditure of about £10,000.

WEST HARTLEPOOL.—The Borough Engineer has been instructed to prepare an estimate of the cost of a hospital, with accommodation for 60 beds and facilities for extension.

WRICKHAM.—The U.D.C. has decided to proceed with the erection of 70 houses on the Rectory-lane site.

WIGAN.—The Parochial Church Council of St. Catherine's Church are proposing to carry out extensions to the Sunday Schools at an estimated cost of 1,400.

WILMSLOW.—The Parochial Church Council of the Parish Church are proposing to enlarge the Parish Hall and carry out repairs to the Church and schools, at an estimated cost of £3,500.

WIVELISCOMBE.—The U.D.C. has received from the M.H. sanction to a loan of £4,752 in connection with the erection of 10 non-parlour type houses on the Style-road site.

WOKING.—The U.D.C. Surveyor has now prepared amended plans for the new fire station.—Plans passed: police house, Sutton Green, for Surrey C.C.; 26 houses, Bury-lane, for Mr. Barry.

YORK.—Plans are in preparation for extensions at the Piccadilly tramcar depot.—The City Engineer is to report as to shop sites on the Tang Hall estate.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 118, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

D. E. GRAY, LTD. (211,817). Registered February 18. 108, Dale End, Birmingham. Builders and contractors, builders' merchants, &c. Nominal capital, £1,000.

GRIFFITHS (BUILDING CONTRACTORS), LTD. (211,823). Registered February 18. Rugby-avenue, Sudbury, Wembley, Middlesex. Builders, building and haulage contractors, &c. Nominal capital, £1,300.

THOMAS COLE & SONS, LTD. (211,877). Registered February 19. Builders and contractors. Nominal capital, £2,000.

CONNIES & MEADEN, LTD. (211,929). Registered February 22. Plymouth-yard, Dumballs-road, Cardiff. Constructional engineers and erectors of all kinds of constructional work, builders, &c. Nominal capital, £5,000.

A. C. BARNES & CO., LTD. (211,925). Registered February 22. Builders and contractors. Nominal capital, £3,000.

JOHN COOKE & SON (HUDDERSFIELD), LTD. (211,873). Registered February 19. Concreter, contractor, and roofing engineer. Nominal capital, £15,000.

CLARKE CONSTRUCTION CO., LTD. (211,980). Registered, February 26. 32, Gresham-street, E.C.2. Constructional, contracting, and general engineers, &c. Nominal capital, £1,000.

LLWYNDU FIRE BRICK CO., LTD. (212,088). Registered, March 1. Brick and tile manufacturers. Nominal capital, £1,000.

T. WHATLEY & SON, LTD. (212,062). Registered, February 27. Painter and decorator. Nominal capital, £700.

HAINES & WARWICK, LTD. (212,046). Registered, February 27. Builders and estate agents. Nominal capital, £10,000.

CLARKE & LEAHY, LTD. (212,053). Registered, February 27. St. George's Works, Northend, Erith, Kent. Builders and contractors, &c. Nominal capital, £2,000.

LETCHFORD & BETTS, LTD. (212,024). Registered, February 26. 67, Eversley-road, Small Heath, Birmingham. Builders, contractors, &c. Nominal capital, £350.

EAST & COCKER, LTD. (211,984). Registered, February 25. 47, Back Drake-street, Rochdale. Builders and contractors. Nominal capital, £1,500.

F. W. CHAPLIN & CO., LTD. (211,789). Registered, February 17. Hinckley-road, Stoke Golding, Leics. Builders, contractors, painters, &c. Nominal capital, £2,000.

JOHN FAULKNER & SONS, LTD. (211,964). Registered, February 24. Contractors and lightning conductor manufacturers and erectors. Nominal capital, £5,000.

FRANCIS & PARTNERS, LTD. (211,958). Registered, February 24. Abbey House, Victoria-street, Westminster, S.W.1. Builders, constructional engineers, &c. Nominal capital, £500.

LONDON AND WALES STEEL CONSTRUCTION CO., LTD. (212,025). Registered February 26. Nominal capital, £19,000.

WILMSLOW BUILDING CO., LTD. (212,040). Registered, February 26. Builders, contractors, and builders' merchants, &c. Nominal capital, £500.

PERRY & CO. (ROADS), LTD. (212,406). Registered March 15. 39, Victoria-street, S.W.1. Constructors and repairers of roads, ways, paths, &c. Nominal capital, £3,000.

RUSHOLME (MANCHESTER) BUILDERS, LTD. (212,396). Registered March 13. 89, Wilmslow-road, Rusholme, Manchester. Builders and contractors, &c. Nominal capital, £2,000.

FRED WALKER & SONS, LTD. (212,376). Registered March 13. Builders, slaters, joiners, &c. Nominal capital, £1,500.

WARREN LIVINGSTONE, LTD. (212,338). Registered March 11. Prudential Buildings, Princes-street, Ipswich. Quarrymasters and stone, sand, and gravel merchants, &c. Nominal capital, £2,000.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

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Best Stocks	4 3 6
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Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 13 3	Best Blue Pressed Staffs	9 5 0
Do. grooved for Plaster	2 15 3	Do. Bullnose	9 15 0
Do. Bullnose	3 8 3	Blue Wire Cuts	7 5 0
Best Stourbridge Fire Brick :—			
2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretchers	21 10 0	D'ble Str'tch'rs	30 0 0
		D'ble Headers	27 0 0
		One Side and two ends	31 0 0
Headers	21 0 0	Two Sides and one End	32 0 0
Quoins, Bullnose and 4½in. Flats	28 0 0	Splays and Squints	29 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.	
Thames Ballast	10 6	per yd.
Pit Sand	13 9	" "
Thames Sand	14 6	" "
Best Washed Sand	14 6	" "
½ in. Shingle for Ferro-Concrete	12 9	" "
¼ in. " "	14 0	" "
½ in. Broken Brick	11 6	" "
Pan Breeze	7 6	" "

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test £2 18 0 to £3 3 6
51s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 8 0
Roman Cement	5 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 11 9
Chalk Lime	2 11 9
Best Ground Blue Lias Lime	2 4 6
Hair	per cwt. 2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4

Do. do delivered on road wagons at above stations, per ft. cube 4 5

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE—

	s. d.
Delivered at any Goods Station, London. Random blocks from 10 ft. and over P. ft. cb.	17 0
Sawn two sides "	27 0
Sawn three or four sides "	32 0

YORK STONE, BLUE—*Robin Hood Quality.*

	s. d.
Delivered at any Goods Station, London. 6 in. sawn two sides landings to sizes (under 30 ft. super.) Per ft. super	5 6
6 in. rubbed two sides, ditto "	6 0
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in. ditto, ditto "	1 4

HARD YORK—

	s. d.
Delivered at any Goods Station, London. Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto ditto "	2 1½
2 in. self-faced random flags Per yd. super	9 0

CAST STONE.

Delivered. — London Area in full van loads, per ft. cube :—Plain, 8s. 6d. ; Moulded, 9s. 6d. Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

PLANED BOARDS.

1 × 11	£27 0	1 × 9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	20/-	1¼	31/-
¾	22/-	1½	34/-
1	25/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	25/-
1¼	31/-
1½	34/-

MATCHING (BEST).

Inches.	per sq.
¾	16/6
¾	19/-
1	24/-

BATTENS.

Inches.	s. d.
¾ × 2	2 6 per 100 ft.

SAWN LATHS.

Per bundle	0 2 4

1" AND UP THICK.

	£ s. d.		£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0	to 0 18 0	
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0	to —	
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0	to 0 13 0	
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0	to 0 18 0	
Dry Log cut Honduras Mahogany, ft. cube	0 18 0	to 1 1 0	
Dry Cuba Mahogany, ft. cube	1 4 0	to 1 10 0	
Dry Teak, ft. cube	0 13 0	to 0 15 0	
Dry American Whitewood, ft. cube	0 11 0	to 0 14 0	
Best Scotch glue, per cwt.	4 10 0	to —	
Liquid Glue, per cwt.	4 7 0	to 5 10 0	

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons. Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 12 6
Ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Hip and valley tiles (per dozen) Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅝ in. to ½ in.	10 15 0
⅜ in.	11 0 0	⅝ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 %	50%	60%
Galvanised Gas	45 %	40%	50%
Blue Water	55 %	45%	55%
Galvanised Water	38½ %	35%	45%
Red Steam	50 %	40%	50%
Galvanised Steam	32½ %	30%	40%

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/2½	11½d.	3½d.
3½ in.	1/4	1/0½	3½d.
4 in.	1/5	1/2½	3½d.
4½ in.	1/6½	1/4	4½d.
5 in.	1/9½	1/5½	5½d.

O.G. GUTTERS.

3 in.	1/7	1/3½	3½d.
3½ in.	1/7	1/3½	3½d.
4 in.	1/8½	1/4	3½d.
4½ in.	1/10½	1/6½	4½d.
5 in.	2/3	1/9½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/9½	1/2½	1/8½
2½ in. "	1/11½	1/4	2/0½
3 in. "	2/4½	1/8	2/6
3½ in. "	2/10	2/-	2/10½
4 in. "	3/3	2/4½	3/6

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	2 11	2 3	2 9
2½ in. "	3 5	2 6	3 5
3 in. "	4 1	2 9	4 0½
3½ in. "	4 5½	3 5	4 8½
4 in. "	4 11½	3 9½	5 5½

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Pipe.	Bends, stocks angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	4 3	5 9	7 8
4 in. " "	6 3	8 11	9 6
5 in. " "	7 10	12 0	16 3
6 in. " "	9 6	15 0	20 9

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 5 0	..	15 5 0
Staffordshire "Marked Bars"	16 5 0	..	17 5 0
Mild Steel Bars	10 0 0	..	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	..	11 0 0
Hoop iron, basis price	12 0 0	..	13 0 0
" Galvanised	27 0 0	..	28 0 0
Soft Steel Sheets, Black—Ordinary sizes to 20 g.	13 5 0	..	14 5 0
" " " 24 g.	14 5 0	..	15 5 0
" " " 26 g.	16 5 0	..	17 5 0
Sheets Flat Best Soft Steel, C.R. & C.A. quality—Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	..	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0	..	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	..	20 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0	..	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0	..	20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0	..	23 0 0
Sheets Galvanised Flat. Best quality—Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0	..	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0	..	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0	..	26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0	..	20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)

	£ s. d.
LEAD—Sheet, English, 4 lb. and up	42 10 0
Pipe in coils	44 0 0
Soil Pipe	46 0 0
Compo Pipe	47 0 0

NOTE—Country delivery, 30s. per ton extra : lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	28 10 0	—
Do., ex country, carriage forward per ton	29 10 0	—

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 0½
Strong sheet	"	1 0
Thin	"	1 1
Copper nails	"	2 3
Copper wire	"	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62*-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.	
8 lbs. P. traps	33/-	41/-	56/-	101/-	per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/-	"

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers' 1/2, Tinmen's 1/5. Blowpipe 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes	per gallon	0 3 0
" " " in barrels	"	0 3 2
" " " in drums	"	0 3 5
Boiled " in barrels	"	0 3 5
" " in drums	"	0 3 8
Turpentine in barrels	"	0 5 5
" in drums (10 gall.)	"	0 5 7
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		51 5 0
GENUINE WHITE LEAD PAINT—"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J." Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered		49 15 0
Red Lead, Dry (packages extra)	per ton	46 0 0
Best Linseed Oil Putty	per cwt.	0 15 0
Filocol	"	0 15 6
Size. XD Quality	firn.	0 3 6

Continued on next page.

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per Ft.		Per Ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz.	3½d.
21 „ thirds	5½d.	„ „ 21 „	5½d.
26 „ fourths ..	5d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	En'lled 15oz. 5½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
¼ Rough rolled	5½d.
⅜ Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.		Per Gallon. £ s. d.
Oak Varnish.....	Outside	0 14 0
Fine ditto.....	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best ditto.....	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak.....	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water).....		0 12 0
Brunswick Black.....		0 7 6
Berlin Black		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Cuirass Black Enamel		0 7 0

OBITUARY

The death has occurred at Teignmouth of Mr. William Turner, builder and contractor.

The death has occurred of Mr. E. Moore, of the firm of Messrs. Johnson & Moore, builders and contractors, of Doncaster.

The death has occurred at Tavistock, at the age of 72, of Mr. Thomas Kerslake, builder.

The death has taken place of Mr. T. H. Adams, builder and contractor, of Shipston-on-Stour.

Mr. David Morrison, of Messrs. A. & D. Morrison, joiners and builders, Back Sneddon-street, Paisley, has died as the result of an accident while at work. He was 62 years of age.

Mr. Henry Michael Grant, builder, of King's Norton, near Birmingham, died recently at Nice.

"Sells' Registered Telegraphic Addresses."

The forty-first issue of this valuable work just issued, fully maintains the level of its predecessors for compendiousness combined with facility of reference. It is divided into the following sections: (1) Names and Addresses, London and Country; (2) Telegraphic Addresses, London and Country; (3) Classified Trades List, together with a Trade Marks and Brands Register. There is also a special Newspaper Press List, Building Trades List, and List of Foreign, &c., Exporters. The work, which is issued on the authority of the Postmaster-General, contains all new registrations, cancellations, and other alterations which have been effected at the Post Office to the end of 1925, and there is a further list, in which the very latest changes, &c., are notified. The value of the volume to all who have dealings with business firms throughout the country is manifest from the fact that the Classified Trades Section contains over 130,000 names and addresses, grouped under some 3,500 trade headings. The directory is indeed indispensable to all engaged in commerce. The price is 45s. annually, 40s. to subscribers. It is published by Business Dictionaries, Ltd., 8–9, Johnson's Court, Fleet-street, E.C.4.

THE SCOTTISH BUILDER

NEW BUILDINGS IN SCOTLAND

St. Andrew's.—PAVILION.—The T.C. has decided to erect a tennis pavilion at Kinburn public park, at a cost of £1,240.

Clyde.—BRIDGE.—The Glasgow Corporation are to consider the advisability of seeking Parliamentary powers to build a high level bridge across the Clyde at Finnieston, and to purchase the harbour tunnel at a cost of £1,100,000.

Glasgow.—VARIOUS.—The Dean of Guild Court has passed plans for the Western Heritable Investment Co., Ltd., to erect 100 houses at King's Park, Mount Florida; also J. Wright, ten terrace houses in Camphill-avenue, Langside; Second Scottish National Housing Company (Housing Trust), Ltd., Edinburgh, to form streets in continuation of Hollybank-street and Kilberry-street and to erect eight houses; and Territorial Army and Air Force Association of the County and the City of Glasgow, to erect headquarters for the Auxiliary Air Force at the junction of Victoria-road and Coplawhill-street.

Falkirk.—HOUSES.—The Dean of Guild Court has sanctioned a petition on behalf of the Falkirk Iron Co., Ltd., for warrant to erect at Hayfield, Bankside, and at an estimated total cost of £9,500, five blocks each of four houses of three apartments and one block of four houses of two apartments.

Aberdeen.—EXTENSION.—The Harbour Commissioners have agreed that an instruction be given to the Convener of the Works Committee of the Harbour Board to furnish a report at next meeting as to the provision of additional market accommodation for trawlers.

Edinburgh.—CENOTAPH.—The Sites Sub-Committee of the Edinburgh Cenotaph Committee has decided to recommend a site in East Princes-street Gardens, between the Adam Black and Christopher North statues, for the erection of the Edinburgh Cenotaph.

Musselburgh.—HOUSING.—The Town Council has received the M.H. sanction to a grant in aid of the erection of 52 houses at Stoneyhill.

Edinburgh.—BUILDING.—The Dean of Guild Court has sanctioned various plans, including the depository to be built by Jenners', Ltd. on a site of five acres at Balgreen-road, Murrayfield. This new building will cost about £70,000.

Dingwall.—HOUSES.—The Town Council has accepted an offer for their third housing scheme. They propose to erect 24 houses, at a cost of £344 per house.

Perth.—HOUSING.—The Housing Committee has under consideration a site for the erection of the 54 Atholl steel houses which they propose to acquire. They have provisionally approved of sites at Gray and Albany-streets.

Aberdeen.—HOUSING.—The Town Clerk has received a communication from the Scottish Board of Health conveying the Board's consent to the borrowing of £355,000 for various housing purposes.

Portpatrick.—HALL.—A definite decision has now been arrived at in connection with the erection of a new hall. The hall is to be one of Messrs. Spiers' composite buildings. It is stated that, roughly speaking, Messrs. Spiers' building can be erected for £1,280.

Coatbridge. — SCHOOLS. — The Lanarkshire Education Authority has recommended the erection of a new school on a central site in Coatbridge. The Authority also recommends the erection of St. Augustine's R.C. school extension, to provide accommodation for 900 primary pupils, and the reconstruction of the main building for the accommodation of 400 pupils.

Clydebank.—HOUSING.—Details are now being adjusted by the Town Council for a large programme of house building. A start has been made on a scheme of 170 concrete bungalows at West Kilbowie, and the next scheme to be started is one at Whitecrook, where 100 Athol houses and 120 of other types are to be constructed. Negotiations are nearly completed for the acquisition of a large site at Boquharran, where it is proposed to erect 600 houses. The Scottish National Housing Co. have arranged to erect 100 houses on local sites under the Government scheme. In addition to the foregoing schemes, the Council are also negotiating for sites at Parkhall and Mill-road.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria.....	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge.....	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William.....	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/5	—	1/5	1/4	1/5	1/5	1/4	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall.....	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell.....	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1)10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on another page.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	10
Axed in stocks	" "	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	1	0
Setting ordinary register grates and stoves	each	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4 15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
¾ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal edges shot	per sq.		44/6	53/-	60/6
Do. tongued and grooved	"		49/-	57/6	65/-
Do. matchings	"	45/-	51/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

		1¼"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

		1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets		2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed		1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average 3 in. × 3 in.	" "	8	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	57	0
Do. Do. in flats	"	56	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	"	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	7
Do. Do. Keen's	" "	3	7
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)			
Portland cement screed	per yard sup.	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	"	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 4s 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*** Denotes *accepted*. † Denotes *provisionally accepted*.**
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

ALTRINCHAM.—Twenty type "B" houses, in St. Mark's-avenue, Oldfield Brow, for the D.C. Mr. H. E. Brown, surveyor :—
*J. Collier, Altrincham.

BIRMINGHAM.—Building, with shops on the ground floor and offices above, in New-street and Waterloo-street. Messrs. Essex & Goodman, architects, 27, Waterloo-street :—
*T. Rowbottom, Ltd.

BLACKROCK.—Eight houses at Grotto, for the U.D.C. :—
*Allen Brothers £2,488

BOHERBEE.—Enlarging Boherbee Co-operative Creamery :—
*Denis Fehin £750

BOSTON (LINCS).—Houses, for the R.D.C. :—
*Chambers & Ellen..... per pair £795

BOURNEMOUTH.—Fencing at the Pine-road recreation ground, for the T.C. :—
*J. L. & E. Pearce..... £261

BOURNEMOUTH.—Fencing Pine-road pleasure-ground, for the T.C. :—
J. Caslake.
Hill & Smith.
T. W. Palmer & Co.
Bayliss, Jones & Bayliss.
‡J. L. & E. Pearce..... £260 19 7

BRADFORD.—New sanitary accommodation at "The Travellers' Rest," Windhill, for Messrs. J. Hey & Co., Ltd. :—
*M. Booth & Sons.

BRADFORD.—Open access system at branch libraries, for the T.C. :—
*E. Fearnley & Son, Ltd.—
Manningham £855
*Raper & Dobson, Ltd.—
Bradford Moor..... 367
Wibsey 169

BRADFORD.—Covering in repair pits at Thornbury Car Depot, for the T.C. :—
*J. C. & A. Sunderland..... £450

BRISTOL.—Houses, for the T.C. :—
‡Knowle, J. J. Cunningham, 16 parlour houses.
‡Knowle, G. Howell, 6 parlour houses.
‡Bedminster Down, Thornton Hall & Co., 12 non-parlour houses.
‡Bedminster Down, C. Zwart, 20 non-parlour houses.

BROMLEY.—For (*a*) 340 yds. of fence at Station-road, West Wickham, and (*b*) 720 yds. of fence at Chelsfield-lane, Orpington, for the R.D.C. Mr. L. J. Small, surveyor; quantities by surveyor :—
*Morgan & Co. (Strood), Ltd., Rochester £186 13 6

BULKINGTON.—For construction of a reinforced concrete water tower, for the U.D.C. Mr. O. G. Laban, surveyor :—
*J. Gray, Coventry..... £3,435

BULKINGTON.—For (*a*) 10 houses on Butt Field; and (*b*) 10 houses on Weston-lane, for the U.D.C. Mr. O. G. Laban, surveyor :—

	(*a*)	(*b*)
E. Ashley & Son	£4,983 8 ..	£4,983 8
S. N. Wilson	4,790 7 ..	4,775 8
G. Farndon	4,648 0 ..	4,628 0
*W. L. Shortridge	4,473 0 ..	4,450 0

CAMPDEN.—Non-parlour type houses, for the R.D.C. Mr. E. H. Earp, architect :—
Moreton-in-the-Marsh, 8 *non-parlour*—
‡C. Steward £3,680
Campden, 4 *parlour and* 4 *non-parlour*—
‡J. W. Pyment & Son..... 3,660
Ehrington, 4 *non-parlour*—
‡Alcester Builders, Ltd..... 1,836
Mickleton, 8 *non-parlour*—
‡H. Grinnall, Mickleton 3,344
Quinton, 4 *non-parlour*—
‡H. Grinnall..... 1,695
Admington, 2 *non-parlour*—
‡H. Grinnall..... 855

CARLISLE.—Substation at Scatby, for the T.C. :—
*J. & R. Bell, Carlisle..... £186 10

CARNFORTH.—Twenty houses of the non-parlour type, for the U.D.C. :—
*J. Dixon & Son, Carnforth..... £9,788

CLUTTON.—Sixteen houses at Timsbury, for the R.D.C. :—
†C. G. Turvey, Midsomer Norton £3,980
†F. Andrews, Midsomer Norton 3,980

CLUTTON.—Ten houses at Stanton Drew, for the R.D.C. —:
*A. J. Peancy, Stanton Drew..... £4,950

DARFIELD.—Eighty-six houses on the Woodhall-lane site, for the U.D.C. :—
*E. Oakland & Co..... £43,482

DUBLIN.—Boundary wall, piers, and railings on the north side of the new main thoroughfare in front of the St. Mary's Novitiate, for the C.B. City Architect :—
*E. Power, Cabra £2,914 3 6

EDINBURGH.—Workmen's hut at Broughton Village, for the T.C. Messrs. J. & A. Leslie & Reid, engineers :—
*J. Lamb, Loanhead.

FAGLEY (YORKS.).—Reconstruction of "The Royal" Hotel, for Messrs. J. Hey & Co., Ltd., Northbrook Brewery. Mr. Wm. Illingworth, architect, Bradford :—
*M. Booth & Sons.

FEATHERSTONE.—Fifty houses, for the U.D.C. :—
*Paul Rhodes, Ltd., of Leeds.

FOLKESTONE.—Two sets of entrance gates for the Sports Ground, for the T.C. :—
*Bayliss, Jones & Bayliss, London.. £121 9

GAINSBOROUGH.—Twelve houses in Nelson-street, for the U.D.C. Mr. S. W. Parker, surveyor :—
*A. E. Mason, Gainsborough.

GLASGOW.—Plaster work of the Low Balornock housing scheme, for the T.C. :—
‡J. Laidlaw & Son, Ltd. £6,191 5 3

GLASGOW.—Slater work at the Cathcart-road housing scheme, for the T.C. :—
‡P. White & Co. £1,481 9 3½

GLASGOW.—Painter work at (*a*) Garvald-street and (*b*) Springfield and Kinnear-roads housing schemes, for the T.C. :—

	(*a*)	(*b*)
‡T. Hastie & Son	£142 9 2	£2,025 18 11½

GOMERSAL.—Extensions and provision of new lavatory accommodation at New Mill :—
*A. Drake, Cleckheaton.

GRANGEMOUTH.—Reconstruction of Bo'ness Bridge, for the L.M. & S. Rly. Co. :—
*Wm. Taylor & Son, Glasgow.

GRAVESEND.—Fencing at housing estate, for the T.C. :—
‡Morgan & Co., Strood..... £466

HANWELL.—Thirty houses on the Hopefield estate, for the U.D.C. :—
A. & B. Hansen..... £21,656
W. J. Dickens..... 21,220
F. D. Hidden..... 20,744
A. Carter 18,711
T. Millman, Ltd..... 17,694
Perry Bros. 17,638
F. Perry & Sons..... 16,995
A. Cole, Ltd. 16,250
P. Brown 16,203
*Lansdowne Building Co. 15,430

HECKMONDWIKE.—Four type "B" houses, for the U.D.C. :—
**Masons*—J. B. Allatt & Son.
**Masons*—W. H. Holroyd.
**Joiners*—J. Brooke & Son.
**Plasterers*—A. Idle & Son.
**Slaters*—J. M. Thornton & Sons.
**Painter*—J. W. Bennett.
**Plumber*—L. Gooder.

HEMEL HEMPSTEAD.—Sewerage and sewage disposal works at King's Langley, for the R.D.C. Messrs. Radford & Son, engineers, Nottingham :—
*M. Vine, Bournemouth £6,200

HEREFORD.—Fence next to railway property, in Barrs Court-road, on the Penn Grove site, for the T.C. :—
‡J. Byrom, Bury £105

HORTON.—Conversion of shop property into offices for the Halifax Equitable Building Society. Messrs. W. J. Morley & Son, architects, Bradford :—
*M. Booth & Son.

HOYLAKE.—Church for the Roman Catholic authorities. Messrs. E. Kirby & Son, architects, 5 Cook-street Liverpool :—
*Smith Bros., Hoylake £6,620

IRELAND.—Tenders accepted by the Commissioners of Public Works for the month of March :—
Clogher (Portnoo) Garda Siochana Station, co. Galway (restoration) :—
*H. A. Spence, Ardara, co. Donegal.
Kenmare Garda Siochana Station, co. Kerry (restoration) :—
*P. O'Sullivan, Castletownbere, co. Cork.
Clonakilty Agricultural Station, co. Cork (erection of piggeries) :—
*Charles Cullinane, Clonakilty, co. Cork.
Governor-General's residence (conversion of laundry buildings into a Garda Siochana station) :—
*G. W. Scott & Co., Ltd., Dublin.
Governor-General's residence (building boundary wall to enclose laundry grounds) :—
*G. P. Walsh & Sons, Harold's Cross, Dublin.

LETCHWORTH.—Sixty-three houses at Hillbrow, for the U.D.C. :—
H. King, Garston, Watford £31,237 0
Jeffs & Bigley, Letchworth 30,589 0
J. Ray, Letchworth 29,365 0
Pettingell & Clark, Hitchin 28,199 10
*W. F. Bailey, Oxhey, Watford .. 27,122 0
(Subject to M.H. approval.)

LICHFIELD.—Fourteen non-parlour houses on the Trent Valley-road site. Mr. P. A. Benn, City Engineer and Surveyor :—
*H. Dickenson, Lichfield..... £6,434

LONDON.—New offices at Liverpool-road depot, for the Islington B.C. :—
W. M. Brand..... £1,855
A. Cheetham 1,836
Stevens & Sons..... 1,720
H. H. Hollingsworth & Son 1,675
‡John C. Mather 1,458
All of London.

LONDON.—For the construction of urinals in (*a*) Lauriston-road, and (*b*) Victoria Park-road for the Hackney B.C. :—

	(*A*)	(*B*)
W. M. Brand	£283 0 0 ..	£330 0 0
Barrett & Power.....	277 0 0 ..	‡285 0 0
Silk & Son	265 9 9 ..	316 12 9
C. Plumley	263 12 10 ..	330 2 10
H. Knight & Son	261 0 0 ..	312 0 0
E. Setchell	248 1 0 ..	285 10 6
W. H. T. Kelland & Sons, Ltd.....	‡236 10 6 ..	291 12 6

(All of London.)

LOWESTOFT.—Practical instruction rooms at the Central School, for the T.C. :—
*Mobbs Bros., Ltd..... £2,670

MANCHESTER.—New office premises in John Dalton-street, for the Legal and General Assurance Society, Ltd. Mr. A. Winstanley, architect, 49, Deansgate :—
*Pearce & Norquay, Ltd.

MARGATE.—Electrical wiring and fittings in 72 houses in course of erection on the Dane Valley housing estate, for the T.C. :—
‡W. J. Cannon & Co... £4 7 6 per house

MEATH.—Reconstruction of the County Home, for the County Meath Board of Health :—
*Mr. Coldrick £6,752

NELSON.—Ferro-concrete work at Ridgaling Service Reservoir, for the T.C. :—
‡Matthews & Mumby, Ltd.

OUTWELL (CAMBS).—House in Downham-road, for Mr. H. Murfitt, Outwell, near Wisbech. Mr. J. W. Crouch, surveyor :—
White & Holmes, Elm, Wisbech £1,085
Webber & King, Upwell 1,075
Parker & Sons, Upwell 1,176
*Elworthy & Co., Upwell 1,050

PAIGNTON.—16 in. cast-iron pipes lined with ½ in. concrete for duplicate water main, for the U.D.C. :—
*Stanton Ironworks Co., Ltd..... £54,017

PRESTON.—New vicarage, for the vicar of St. John's Church, Lund. Mr. A. C. M. Little, L.R.I.B.A., architect and surveyor :—
*T. Croft & Sons..... £3,700

ROCHFORD.—Twelve cottages at Little Wakering, for the R.D.C. :—
*Ventris & King..... £5,820

RUGBY.—Sixteen cottages, for the R.D.C. Mr. J. E. Weeks, architect and surveyor :—
Eight cottages at Stretton—
F. Hollowell, Rugby £4,100 0
A. E. Summerton, Leamington Spa 4,025 11
†Corfield & Burton, Coventry 3,919 0
Eight cottages at Ryton—
F. Hollowell, Rugby 4,200 0
†Corfield & Burton, Coventry 4,081 0

SANDYFORD.—Twelve houses at Sandyford Alley, for the Irish Sailors' and Soldiers' Land Trust :—
*S. Henley & Sons, Drogheda.

SHEFFIELD.—For providing and fixing four additional conveniences, and making alterations at the Wales Court Institution, for the T.C. :—
‡J. Allison, Worksop £138 8

SHIPLEY.—Extensions to the Sir Titus Salt's Hospital, for the U.D.C. Mr. W. Dawson, architect :—
**Masons*—Wm. Pitts & Son.

SHREWSBURY.—New engine-room at the Generating station, for the T.C. :—
‡W. Pace £3,025 12

STALYBRIDGE.—Eighteen houses on the Hague site, for the T.C. Borough Surveyor :—
*W. N. Warner, Ashton-under-Lyne.

STRETFORD.—New timber and ruberoid roof for the stores, for the U.D.C. :—
‡F. E. Gill & Sons..... £248

SUNDERLAND.—Bridge across the River Wear for the Corporation :—
*Sir W. Arrol & Co., Ltd..... £230,339

SUTTON COLDFIELD.—Forty-eight non-parlour type and 18 parlour-type houses, for the T.C. :—
‡R. S. Streather & Sons—
Non-parlour type £437 10
Parlour type 497 10

TIPTON.—Ninety-six houses in Locarno-road, for the U.D.C. Mr. W. H. Jukes, surveyor :—
A. J. Crump, Dudley £46,300 0
C. J. Coulson, Dudley 42,269 0
Butler Bros., Ltd., Handsworth, Birmingham 40,455 0
A. Woodward, Rubery, Birmingham 40,222 10
Housing, Ltd., Blackheath, Birmingham 40,129 10
Eadie, Towers & Co., Wolverhampton 39,804 0
*Richards, Smith & Co., Chasetown, near Walsall 38,409 0
Surveyor's estimate 40,500 0

TOTNES.—Reservoir, &c., at Kingswear, for the R.D.C. Mr. W. F. Tollit, surveyor, 6, Bridgetown :—

C. Steer, Plymouth	£1,533	17	8
T. Downey, Plymouth	1,264	19	5
H. T. Drew, Paignton	1,254	0	0
J. J. Tribble, Kingswear	1,175	0	0
R. C. Pillar, Dartmouth	1,150	11	6
G. E. Bates, Dartmouth	1,099	17	6
*A. J. Roberts, Kingswear	942	10	0

TROWBRIDGE.—Bungalow for Mr. W. S. P. Hounsell, Bradley-road. Mr. Chas. H. Goater, architect, Trowbridge :—

J. T. Parsons & Son	£649	0	0
Holdoway & Son	635	0	0
S. J. Wood	622	5	0
Culverhouse Bros.	618	7	6
*F. R. Parsons	599	0	0

TRURO.—Sluice gates, &c., at Lemon Bridge, for the T.C. :—

—. Thomas	£6,573
‡J. H. Labb	5,538

OAK FLOORING
Immediate delivery of
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(Subject to the approval of the M.H.)

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